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WITH THE RESERVE BRIGADE—FROM WINCHESTER
TO APPOMATTOX.

FOURTH AND CONCLUDING PAPER.

THE beginning of the year 1865 found the First and Third Divisions of the Cavalry Corps in camp, in the vicinity of Winchester; and the troops were directed to make their camps as comfortable as possible, with a view to their occupancy for a considerable period. The severity of the weather, however, permitted only a moderate degree of comfort. Tentage and fuel were both scarce, while the horses were entirely without shelter. Snow had fallen to the depth of several inches, and the mercury hovered in unpleasant proximity to the zero point for days in succession. The railroad had been completed to Stephenson's Depot, four miles from Winchester, and supplies were hauled from that point in wagons; thus providing a well stocked commissary for officers and men, and abundant forage for the horses; a condition of affluence which went far towards compensating for the adversities of the weather.

Rumors there were of other alleviations afforded by the social life of the town; the assurance of the continued protection of the Union troops bringing to the surface the loyal element which had been overwhelmed and crushed by the weight of secession sentiment. It was even whispered that the allegiance of some of the fair

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Confederates to the "sacred cause," had not been proof against the wiles of the "blind god," and that the "hated Yankees" had been found less black than they had been painted. But, alas! these pleasures were not for the line. Those fortunate fellows of the staff were on the ground and, as usual, had the inside track.

As the days wore away a restless feeling seemed to pervade the camps. All the talk and discussion about the camp-fires indicated an eagerness to be up and doing, to finish the work that still remained. It was not thought that the task was a light one, but there was an agreement of opinion that the spring campaigns would result in the more or less complete overthrow of the Confederacy and collapse of the rebellion; and so, when the order to march came, although unexpected, it was very welcome.

On the morning of the 27th of February we bade a cheerful good-bye to our camps, and leaving the tents standing, the long column was stretched out on the familiar Valley Pike, headed up the Valley. The desolate landscape, the blackened ruins of burnt buildings, the deserted houses, and fields shorn of their fences, together with the gloomy and lowering skies, presented anything but a cheerful picture; the inspiring sense of movement and action was, however, superior to all depressing influences, and the way was cheered by the jokes and laughter of the "bold dragoons" as they rode along in happy freedom from all care.

A magnificent force of cavalry it was. Ten thousand gallant troopers, men of intelligence, free citizens of a free country, fighting for a cause which could but strengthen and confirm every courageous impulse. They had been educated, trained, and seasoned by years of most exacting service against an enemy whose courage and tenacity of purpose had won the admiration of the world. Free from all old-world theories and traditions, they had put to the test all means of offensive power given them, and had retained with confidence those which had proved effective. With a versatility of resource which can exist only with great intelligence, their efficiency had been demonstrated under all possible conditions of service. In numberless encounters they had shown themselves superior to the cavalry of the enemy; on the field of battle they had charged successfully with the saber against infantry lines; and, fighting dismounted, they had repeatedly repulsed and overthrown the best infantry of the Confederate armies. Their leaders had also been educated and trained in the hard school of experience; and, by the process of selection and the survival of the fittest, represented the best talent in their profession, which the nation afforded. Add

to this the knowledge that they were under the direction and guidance of their great commander, SHERIDAN, who had won their hearts by his just confidence in their strength, who had rescued them from a subordinate and humiliating position, and whose indomitable spirit had left its impress upon the heart of every trooper, and we can believe that this body possessed a force which could not fail to exert a most powerful influence in that contest of courage, endurance, and skill, which was to end the mighty struggle of four weary years.

The good people of Strasburg, Woodstock and the other Valley towns gave us no cordial greetings as we rode along, but we remembered their harsh experience of the previous summer and pardoned their dark looks.

Upon reaching the North Fork of the Shenandoah, on the 28th, an attempt was made to ford the stream, but after several men and horses had been carried down by the swift current of the swollen river, the pontoons were brought up, expeditiously laid, and the command crossed with but slight delay. The advance guard struck ROSSER the next day at Mount Crawford, but he was brushed aside with ease by the leading brigade, the rest of the command being scarcely aware of any obstruction.

On March 2d we reached Staunton, where it was learned that EARLY was at Waynesboro, ten miles away, and had declared his intention to fight there. The First Cavalry was at this time on duty at General SHERIDAN's headquarters; but CUSTER's division having been ordered on to Waynesboro to accept EARLY's challenge for a fight, the First Cavalry through some misapprehension, followed in its wake and had the good fortune to share in the final overthrow of EARLY's forces.

CUSTER went at his task with his accustomed impetuosity. His dispositions were made with hardly a moment's delay, the regiments being assigned to their positions as fast as they came up. The First Cavalry was ordered to support the Eighth New York, which was to charge, in column, down the road and through the town, when the general assault should take place. Soon the trumpets sounded the advance; the scattering shots of the skirmish line were followed by rattling volleys of musketry and some rapid discharges of artillery, and, as the dismounted line, with inspiring yells and cheers, rushed to the assault, we broke into column at a gallop and went splashing down the road after the Eighth New York. The rain had been pouring down incessantly for several days, and the road-way was a sea of liquid mud, marked only by the fences on either side. We

were already well splashed, but as we dashed through this pasty mass, with heads down to save our eyes, we were pelted and plastered with the sacred soil beyond all recognition. Some unlucky troopers of the leading regiment who had been unhorsed, as they scrambled out of the way, were suggestive of nothing so much as unfortunate flies crawling from a pool of molasses. As we galloped through the town the firing had almost ceased, and we heard off to the right and rear, the victorious shouts of CUSTER's men. The completeness of this victory was only marred by the escape of EARLY and ROSSER, who wisely made prompt and effective use of their horse-flesh. The captures in this engagement were sixteen hundred prisoners, eleven pieces of artillery, seventeen battle-flags, and a large quantity of supplies and means of transportation. The prisoners were sent back to Winchester with an escort of fifteen hundred men, by which the command was depleted to that extent, it being impossible for them to rejoin.

The Confederates were, of course, outnumbered in this affair; but the position was a strong one and could not have been carried without severe loss had any serious effort been made to hold it. As it was, our losses were so trivial as hardly to be worth mentioning, while the moral effect of this first victory of the campaign was of great value. Waynesboro appeared almost deserted, and, headquarters having come up, we bivouacked in the streets of the town, making use of the vacant buildings for shelter from the still pouring rain.

We reached Charlottesville on the evening of the 3d, and were, it is believed, the first Yankee soldiers to visit that place. Being still attached to headquarters, we bivouacked in the town, and some of us, following the example of the staff, accepted the hospitality which was freely and cordially proffered by the people near our camp. An evening made delightful by music and song and the presence of fair women, who showed their good breeding by avoiding allusion to all unpleasant subjects, still lingers in memory. The comfort of that clean and seductive bed; the surprise of finding our cavalry boots relieved of their load of mud and neatly polished, by our chamber door; the exquisite breakfast-table, with its bright silver, delicate china, and snowy cloth and napkins, presided over by a lovely white-haired old lady, whose son (a surgeon in the Confederate army, on leave of absence) asked a reverent blessing on the food set before us. All these pleasant remembrances are never to be lost, but cherished in admiration for that nobility of character which could hold the claims of hospitality superior to all sectional hate and bitterness.

While we were enjoying the good things of Charlottesville, our comrades of the Reserve Brigade were having a hard time back with the wagons, which, with infinite toil, were being dragged through the red clay of the nearly bottomless Virginia roads. They finally came up on the 5th; and on the morning of the 6th, we bade our hospitable friends good-bye, with the hope that they might, thenceforth, be spared all harsher experiences of war. It could be seen that they felt that their cause was hopeless, although they professed unbounded faith in the ability of General LEE and the courage of their soldiers. The columns marched in the direction of Lynchburg; CUSTER's division along the railroad, giving proper attention to its destruction, while DEVIN followed the canal with the same object. On the 7th we reached Howardsville on the James river, and on the night of the 8th, an unsuccessful attempt was made to seize the bridge at Duguidsville before it should be destroyed by the enemy, by a forced march, the horrors of which are still vivid. The condition of the roads was indescribably bad; the rain fell in torrents, and the darkness of Egypt could not have exceeded the thick blackness which surrounded us. But we plunged along through the deep mud, encountering all sorts of obstacles, and keeping the road only with the greatest difficulty.

It was afterwards reported that during this night-march one of the divisions marched several times around an enclosed field before it was discovered that it was traveling in a circle; a circumstance which seemed so probable that nobody was inclined to doubt the truth of the report.

The unceasing rain and the difficulties of the march had told severely upon the horses, besides exercising a depressing influence upon the men; and there appeared to be a general feeling of relief and encouragement when, it having been found impossible to cross the James river, the column was headed towards the north and our armies.

The tow-path of the canal (which was a narrow causeway between the canal and the river) appearing somewhat firmer than the country roads, an attempt was made to use it for the march of the column and the trains; but it soon became frightfully cut up, and its narrowness was such that the stalling of one team stopped everything in rear. While we were strung out in considerable confusion along this narrow way, wagons and mules mired down in front preventing all progress, some scouting parties of the enemy were seen on the opposite bank of the river, and the thought that a battery of artillery might open on us from that secure position while we were

in this predicament, was not comforting. However, the battery did not make its appearance, and as soon as possible the tow-path was abandoned for the roads farther back from the river, which, if not less muddy, afforded more freedom of movement. The canal was effectually destroyed by cutting the causeway between it and the river at various points, and blowing up the viaducts.

While marching through this region, hitherto unvisited by the Union armies, many hundreds of negroes, men, women and children, had joined the column in search of "freedom's land." They were, for the most part, on foot, carrying their worldly possessions in bundles and packs. Their condition was one of almost absolute destitution, and yet, with that freedom from troublesome care which is the characteristic of their race, they were as cheerful and happy as they could have been had they possessed everything worth having in life. The energetic quartermaster of the expedition, Captain WILLIAM H. BROWN, of the Fifth Cavalry, by effecting some sort of an organization among these colored patriots, was enabled to make effective use of their services in helping along his mud-impered train. At Columbia, which we reached on the 10th, we lay over a day to wait for them; and here, for the first time in many days, we enjoyed a few hours of sunshine.

On this expedition, as on others of like character, men and horses were subsisted by foraging liberally in the country passed through. The people, in many instances, deserted their homes upon the approach of the Union troops, and seldom complied when instructed to produce their supplies, so the troopers were of necessity compelled to help themselves. This, of course, led to some demoralization, but acts of malicious vandalism were almost unknown, the excesses of the men being generally confined to a liberal provision for their personal needs. Food, fuel and forage were considered public property wherever found, and at Columbia tobacco was added to this free list; the well filled warehouses which were located there supplying in great abundance the wants of the entire command.

On the 13th we marched to Goochland, and on the 15th reached Ashland, the Virginia Central Railroad having been in the meantime very thoroughly destroyed for many miles. General SHERIDAN's ruse of a threatening advance towards Richmond enabled the command to cross the North Anna without molestation, at Mount Carmel Church, on the morning of the 16th, and to reach the White House on the Pamunkey, where abundant supplies awaited us, on the 18th of March.

The rain which had fallen almost incessantly during the progress

of this expedition had rendered it one of fearful hardships, which had severely tested the powers of endurance of the troopers, seasoned veterans though they were. Nearly one-third of the horses had been abandoned on the march or rendered totally unserviceable, while the worn and jaded condition of those which remained gave striking testimony to the severity of the work which they had been called upon to perform.

Although the command was thus seriously depleted and weakened, there was no discouragement or want of soldierly spirit, and it was felt that the results achieved fully compensated for all losses and sacrifices. The last remnant of EARLY's army had been captured or dispersed, and the beautiful Valley of the Shenandoah, that highway of armies, finally and definitely relieved from the burdens and sufferings of war, which had so long been its portion; vast quantities of supplies and war material had been destroyed, and two of the enemy's important lines of supply rendered useless. It may also be believed that the moral effect produced by the unopposed march of this destroying column was no unimportant factor in the final result.

With the end of our march the tiresome rain also ceased to fall. The warm sun and kindly breezes of spring dried our soaked packs and mud-covered clothing and equipments. Rations and forage were distributed, horses shod, accouterments put in order, arrears of clerical work brought up, and everything put in readiness for the further work which all knew was before us.

On the 26th of March we marched to the James river, which we crossed on the pontoon bridge laid just below the Dutch Gap canal, all unconscious of the fact that we were passing in review before the great Commander-in-Chief, the wise, the patient, the kind and generous President who, in the inscrutable providence of God, was so soon to yield his life, a last supreme sacrifice to freedom's cause.

On the following day we went into camp at Hancock's Station, a stopping place on the little military railroad, laid on the surface of the ground almost without grading, from City Point to our lines in front of Petersburg. Here we were joined by the Second Division, under its new commander, General CROOK; and SHERIDAN's cavalry corps was once more united. Here also the regiments received some recruits—men from hospitals and remount camps, and some officers who had been absent from various causes. The First Cavalry lost in this wise, with regret, its gallant commander, Captain EUGENE M. BAKER, (otherwise TIM BAKER), Captain RICHARD LORD rejoining from a protracted absence and assuming command by virtue of his rank. The regiment here also rejoined the Reserve Brigade, a

change which occasioned no regret, for however honorable duty at headquarters might be, there was abundant satisfaction in the knowledge that we should share in the work and in the honors to be won by that incomparable organization, whose history was that of the cavalry of the Army of the Potomac.

Its commander, gallant and genial ALFRED GIBBS, had just received his well earned promotion to the grade of brigadier-general, and the welcome given to the regiment upon its return made it seem like getting back home.

The Reserve Brigade was at this time composed as follows:

Brigadier General ALFRED GIBBS, commanding.

First United States Cavalry.

Fifth United States Cavalry.

Sixth United States Cavalry.

Second Massachusetts Cavalry.

Sixth Pennsylvania Cavalry.

All the regiments were greatly depleted, and the strength of the whole brigade must have been considerably less than one thousand men. The First Cavalry was on several occasions during the campaign detached for special duty, either at General SHERIDAN's headquarters, or under the immediate direction of the corps commander; but its service was substantially that of the brigade, as it is believed that it participated in every affair in which the brigade was engaged.

The exhilarating effects of the fine weather, and the pleasure and excitement of meeting old friends and comrades, had put everybody in the best of spirits. Then, too, we were once more within sound of the enemy's guns; and the conviction that important events were impending served to keep all minds active and alert, and ready to respond with promptness to any call for action.

Upon the order for the movement on the 29th of March, the rain, that faithful and untiring ally of the Confederacy, again began active operations, and came down as though the supply were inexhaustible. But mud and rain had no longer any terrors for the cavalry; a well-founded conviction existing that no conditions could be encountered more severely trying than those which it had already experienced. Nevertheless, as we got out into the country towards Ream's Station on the Weldon Railroad, we were reminded that Virginia mud has an infinite variety of character. The familiar red clay, which kneads up into a thick and pasty mass, and forms great ridges as the horses in sets of fours follow in each other's footsteps, had given place to a black and yielding sandy loam which, in the flooded fields, became almost a quicksand in which horse and rider were in danger of sink-

ing out of sight. However, we plunged and floundered along, making fair progress, and towards evening came to the crossing of Rowanty Creek, where we found the bridge gone and the stream roaring along entirely out of its banks. Axes were gotten out, some men swam to the other side, and two trees on the opposite banks were felled so that their top branches were interlaced in the stream. These being fastened together and strengthened, quite a respectable bridge was made, over which the command passed without difficulty.

From this point we hurried on to Dinwiddie Court House, where the advance guard captured some of the enemy's pickets and drove the remainder in short order out of the town. The brigade pushed out a mile or two on the Five Forks road, and unsaddled, the First Cavalry, by virtue of its honorable place at the head of the roster, going on picket, with outposts well out in the direction of Five Forks. The rain which poured down all night helped to keep things quiet on the picket line, but a reconnaissance on the following morning developed the fact that FITZ HUGH LEE's troopers were on the alert in our front. We were, however, satisfied that they should remain while on their good behavior, and the forenoon passed with only an occasional shot exchanged as the patrols on either side became too enterprising.

Towards nine or ten o'clock heavy firing was heard off to our right, informing us that our infantry, which had been hugging the intrenchments in front of Petersburg during the weary months of winter, was at last on the move. Soon after noon an order for a movement came, and the brigade moved out on the Five Forks road, the Sixth Pennsylvania and the Second Massachusetts having the advance. The enemy's cavalry was soon developed in full strength, but the attack was pressed vigorously by the whole brigade, and the enemy was driven to the vicinity of Five Forks. The face of the country in this region is thickly covered with woods and thickets of brush, while the rains of spring had created such a boggy condition of the soil that mounted movements could be made only with the greatest difficulty. This affair of the brigade was a scramble through the mud and brush, against an enemy always concealed, who yielded without much resistance after delivering fire, the pistol being the principal weapon used on both sides. This reconnaissance having developed the fact that the enemy was in considerable force at Five Forks, the outposts were reestablished on about the same lines, and things settled down again for the night.

On the morning of the 31st, the Second Brigade, Colonel FITZ-HUGH commanding, came out to ascertain the disposition of the force

in our front, and as the First Cavalry knew the ground it obligingly went along for company. Although we met but little resistance our progress was necessarily slow, and the skirmishers did not reach the Forks until the middle of the forenoon. By this time heavy firing was heard over in the direction of CROOK's division, which had the left of our line and we slowly withdrew towards Dinwiddie; the First Cavalry, as it reached its former position, being permitted to report back to the brigade which was found in the position which it had occupied during the previous day, at the forks of the road about a mile from Dinwiddie. The remainder of the division was engaged with the enemy; and the heavy firing which was unmistakably coming nearer every moment, indicated a severe conflict, in which our forces were, evidently, not prospering.

It may be explained here, that the enemy's cavalry, reinforced by two divisions of infantry, had marched in the morning from Five Forks to attack the left of our line which rested on Chamberlain Creek. The first attack of the enemy, which was made about ten A. M., on SMITH's brigade of CROOK's division, was repulsed; but a subsequent attack on DAVIES' brigade had been more successful, and the enemy's infantry in great strength, had broken through our lines, and having driven DAVIES' brigade back on to the two brigades of the First Division, was driving this portion of the corps, in some confusion, off in the direction of the Boydton Plank Road and the infantry lines of the Army of the Potomac.

The Reserve Brigade was directly in the track of these retreating troops, and had it kept its position, would doubtless, have spent such force as it possessed without effect, and would then have been involved and carried away in the general confusion and retreat. Fortunately the Commanding General was not one to yield easily to defeat, and his staff officer reached the brigade in time to withdraw it towards Dinwiddie; then, as the flank of the victorious Confederate line swept past, the brigade was hurriedly dismounted and, in double time, plunging and scrambling through the thick brush, was soon in the midst of the straggling riff-raff in rear of PICKETT's division of infantry. Not much persuasion was required to induce these non-combatant wearers of the gray to throw down their muskets and take their way back towards the Court House, a large number of prisoners being taken in this way with scarcely the firing of a shot.

Our advance through the thick woods and broken ground had been so hurried that the ranks were in considerable confusion, the men of the different regiments being to some extent intermingled,

but all pressing eagerly forward, intent upon the work before them. Suddenly we came upon the rear of a long infantry line lying down behind a barricade of rails—not firing, but apparently “taking it easy.” They must have supposed that we belonged to their side, for they were totally indifferent to our presence, and it was not until our men were close upon them that they became aware of our character. A large portion of the nearest regiment was captured before the men were aroused to the necessity of resistance. The regiment, however, finally rallied around their colors, and vigorously opening fire, soon made the brigade fully aware that it had, at last, attracted attention.

A low ridge covered with brush and scattered timber extended to the left some distance beyond the left flank of the line we had surprised, and following the directions of an officer of General SHERIDAN's staff (the only mounted officer in sight), an attempt was made by the troops composing the left of our line to occupy it. But, when within a few yards of the crest, voices and the sound of marching troops were heard. The command, “Halt!” repeated the length of a long line, was immediately followed by, “Commence firing!” The dispersed condition of the brigade rendered it impossible for it to keep its position in the face of the destructive fire which was now poured in at short range. For a time it was every one for himself, a general scramble taking place for the possession of the scattered trees, or anything else which promised a chance of protection from the deadly storm of lead which had overtaken us. The staff officer disappeared; and dodging through the brush and from tree to tree, the disordered lines were slowly forced back in the direction of the Court House.

IRWIN GREGG's brigade, of CROOK's division, had been brought over from Chamberlain Creek, and going in on the left of the Reserve Brigade had attacked almost simultaneously with it. The effect of this combined attack was to cause the enemy to abandon the pursuit of DEVIN and DAVIES, that he might devote his attention to his new assailant and the force still between him and the coveted position at Dinwiddie Court House.

Fortunately his first fierce assault upon the annoying foe in his rear was not followed up with vigor, he deeming it expedient to turn his attention to the force still threatening his flank over on Chamberlain Creek; and the heavy firing in that direction told us that there was yet plenty of fight left in CROOK's division. His third brigade, Colonel SMITH commanding, still kept its position on Chamberlain Creek, and its determined fighting at this juncture was of the greatest

value in affording some respite to our hardly-pressed lines, and delaying the final assault of the enemy.

Advantage was taken of the comparative quiet in our front to get the ranks into some sort of order. A movement in advance developed a heavy force of the enemy still in our front, and as the long afternoon approached its close we were ordered to fall back in the direction of Dinwiddie. As the tired and mud-bedraggled troopers emerged from the woods and trudged slowly across the open fields in front of the village, their hearts were gladdened by the sight of our artillery in position and a long line of blue uniforms behind a substantial barricade of rails. It was CUSTER's division, which had been ordered hastily forward from the rear, where it had been engaged for the past two days in helping the wagons and artillery out of the mud. Looking back, the solid grey lines of the enemy's infantry could be seen advancing into the open ground, presenting such a tempting target that our eager artillerymen could not wait for their front to be cleared, but began pitching their shells over the heads of the retreating troopers.

On the enemy came, with lines well extended to the right and left, two divisions of infantry, the equals in efficiency of any to be found in the Confederate armies. As they came within closer range their opening fire was answered by a tempest of lead from the repeating carbines of CUSTER's division, which, with the quick discharges of the artillery, made in the evening twilight a veritable line of fire. The fire of the enemy soon died away into scattering shots, then spluttered and went out like an expiring candle. The attack had failed, and night, the welcome friend of weary and hard pressed soldiers, soon claimed full possession and dropped her sable mantle over the field.

The contest of the day had been a severe one, and the cavalry had cause to be thankful that they had succeeded in retaining possession of the Court House, which, as the converging point of several roads, had much strategic value. The movements of the enemy during the whole day seemed to have been badly directed and wanting in purpose. If his object was the possession of Dinwiddie Court House, it may be believed that his best chance of success lay in a determined and persistent advance upon that point. He attempted, instead, a flank movement, the absurdity of which against a force possessing the activity of SHERIDAN's cavalry, should have been apparent, and wasted his strength in a succession of ponderous attacks against fragments of the opposing force, until the day was consumed, and his opportunity lost.

The proximity of the hostile lines was not conducive to slumber, and daybreak found everything ready for a renewal of the contest. A movement in advance, however, resulted in the hasty withdrawal of that portion of the enemy's line which had retained its position, and the cavalry was soon in the saddle, again pressing forward over the familiar ground towards Five Forks.

At the cross-road near the old camp of the brigade, we found AYRES's division of the Fifth Corps, which had marched nearly all night to the assistance of the cavalry. The soldierly and business-like appearance of these troops inspired confidence in their fighting qualities, and as we rode past, the men exchanged friendly greetings. A little farther on we came up with General GRIFFIN, with his division, and the impression gained ground that the force in our front was likely to have occasion to regret its boldness in venturing so far beyond the protecting care of the wise commander of the Army of Northern Virginia.

Meanwhile, the resistance to our advance was becoming more determined, and the brigade was deployed in skirmishing order, the First Cavalry on the left and connecting with CUSTER's division. The most of the men were dismounted, but the led-horses and the mounted supports were kept well up to the skirmish line, and when opportunity was offered mounted rushes were made to dislodge the skirmishers of the enemy from their chosen positions. Our advance through the thick brush and boggy ground was necessarily slow, and at several points such resistance was encountered as to necessitate a concentration and strengthening of the skirmish line.

Finally, about noon, the First Cavalry found its progress checked by a particularly vicious nest of sharpshooters, snugly ensconced behind a line of fallen logs surrounded by thick brush, on the farther side of a cleared field. After considerable firing our men managed to occupy some out-buildings within about two hundred yards of the annoying position, when the parties amiably pegged away at each other with no very definite results on either side.

While this was going on an officer of CUSTER's division galloped over from the left, with the information that CUSTER's line was about to charge to clear his front, and good-naturedly suggested that it would be a good opportunity for us to join in and "clean out" the force which was making so much trouble for us. The suggestion was a good one, but for charging we preferred to be mounted. So the horses were brought forward a few at a time, and the men being gradually withdrawn from the firing line, were mounted and formed in the shelter of the cluster of out-buildings. Everything being in

readiness, and sudden cheers to the left indicating a movement of CUSTER's line, the squadron burst out from behind the sheltering buildings, and with cheers—trumpets sounding—rode straight for the barricades in its front. The attack was unexpected; the nerves of the hostile marksmen lost their steadiness, their fire was delivered in a straggling and ineffective manner, and before they could reload we were upon them.

The charge was well supported by the reserve squadron, and without check was continued up to the very face of the well constructed earth-works of the enemy's main position. Here his artillery and infantry opened fire, and further progress being impossible the regiment withdrew, gathering in as it fell back, every skirmisher of the enemy outside of his entrenchments, thus effectually clearing the front of the enemy's position on this portion of the field. The ground being at once occupied by our dismounted line, the hostile forces were for the remainder of the day closely confined to the shelter of their intrenchments.

As the First Cavalry was re-forming, General SHERIDAN with some of his staff rode by, and with a pleasant nod to the assembled knot of officers, showed his appreciation of the service performed by an expressive remark of *just three words*—words more to be valued because it was not the General's habit to lavish praise for duty performed, congratulatory orders being unknown at his headquarters. The regiment was further honored by being kept in reserve, mounted, for the final attack.

And now followed a weary time of waiting for the troops to get into position for the assault. As the long column of the Fifth Corps was seen disappearing into the woods off to our right and front, it was not difficult to guess the General's plan of battle, and his anxiety lest the enemy should discover the movement which was in progress for his destruction, was shared by every cavalryman in the line. It has been officially decided that there was no unnecessary delay in the movement of the Fifth Corps on the afternoon in question; but for the anxious cavalrymen who were forced to lie inactive before a vigilant and formidable enemy, watching the lengthening shadows which marked the fast waning day, the three hours seemed an eternity, and the delay unaccountable.

But finally, when everybody had settled down into an apathetic state of profound disgust, the welcome sound of the enemy's musketry is heard away over to our right and front; it increases in volume as it is answered by our advancing troops, and hearing the cheers of our dismounted comrades of the cavalry as they rush to the

assault, we dash forward and are soon in front of the formidable works, seeking a place over which it may be possible to force our horses. Twigs and leaves from the branches above are falling about our ears, cut by the thickly flying missiles, and now and again a horse and rider go down; but our dismounted men are over the intrenchment, and amidst the smoke and turmoil of the battle the colors of our brave infantrymen can be seen as they press on down the enemy's line crushing all resistance. After seeking in vain for a convenient opening, we at last make a rush and scramble over, every one for himself, and are soon in the midst of the captured guns, crowds of disarmed Confederates and the disordered ranks of our troops.

As we press forward in pursuit the rays of the setting sun fall athwart a war picture of surpassing interest, the outlines of which are still vivid. Broad fields stretch before us, on the farther side of which the disordered remnant of the enemy's forces are disappearing; some squadrons of his cavalry are coming into line in the distant open ground, as though resolved on some heroic act of devotion; our conquering forces, cavalry and infantry, are pressing forward on all sides; then the light fades, the bold squadrons wheel about and disappear, and pursuers and pursued are swallowed up in the twilight shades of evening.

Effective pursuit in the darkness of night, through an unknown region, is impossible, and the cavalry is entitled to a night's rest; so our faces are turned towards the battle-field, where we strip the saddles from the backs of our tired horses and seek such rest as may be possible in the midst of the confusion which surrounds us. Trumpet calls in every possible combination of notes; division calls, brigade calls, regimental calls; shouted inquiries for their regiments by lost footmen and horsemen, shouted information by officers zealous to find their missing men; shouted jests, rough but good natured, between the captured Johnnies and the jubilant Yanks; staff officers dashing about regardless of incipient camps, or tin cups of boiling coffee—all contributed to produce a complete pandemonium. At length the excitement wears itself out; camp fires grow dim and expire; sleep comes to the tired soldier without much wooing, and quiet reigns, except at headquarters, where work for the morrow is being laid out, and at the hospitals, where the work of the day affords sorrowful occupation.

In this battle the Fifth Corps and SHERIDAN's cavalry had been opposed to five brigades of ANDERSON's corps and FITZ HUGH LEE's cavalry, the whole force being commanded by General PICKETT. The victory for the Union troops could hardly have been more complete.

Although the numbers engaged were comparatively insignificant, it was the decisive battle of the war, insuring, as it did, the evacuation of Petersburg and Richmond, with the consequent surrender of the most powerful army of the Confederacy.

The troops were on the move promptly at daylight on April 2d, that memorable Sunday, so filled with direful fate for the Southern Confederacy. The fighting of the day at our end of the line fell chiefly to MILES' division of the Second Corps, which was sent to General SHERIDAN as soon as the news of the victory at Five Forks had been received. He found the enemy in considerable force at the junction of the Claiborne and White Oak roads, and attacking promptly, drove him off in the direction of Sutherland's Depot. The Fifth Corps struck the South Side Railroad at Ford's Station, where a long line of recently constructed works was found abandoned; the cavalry, crossing the railroad further to the east, pushed the retreating squadrons of the enemy, with an occasional sharp skirmish, in the direction of Namozine Creek.

During the day many stragglers from the routed divisions of PICKETT and JOHNSON, who had evidently lost faith in the Confederacy, were gathered in. Evening found us at Scott's Corners near the crossing of Namozine Creek, where FITZ LEE's cavalry, reënforced by infantry and artillery, and aided by the advancing shades of night, had decided to risk a halt.

Darkness covered everything, when the Reserve Brigade was dismounted and deployed in thick timber, on ground entirely unexplored and unknown. An advance was attempted, but the determined and destructive fire which was elicited, and the difficulties incident to the obscurity of the night, soon brought things to a standstill. The First Cavalry was then mounted and sent off to the right, through the woods, to demonstrate against the enemy's left. Moving quietly through the dense timber and underbrush, an open field was at last reached, and from out the darkness flashed two or three angry shots, indicating that our closer acquaintance was not desired. The leading squadron was noiselessly deployed, with pistols drawn, and in low and careful tones instructed, at a given signal, to dash across the field with a yell. The signal (a pistol-shot and the command "Charge") was given, and the squadron dashed forward. At least it started forward; but how many troopers reached the opposite side will never be known. The signal for the charge was also a signal for the enemy, and a blaze of light from the fire of a long line in our front followed by the rapid discharges of several pieces of artillery, convinced our men that they would not be able to carry the position, and they

immediately proceeded to rally to the rear under cover of the sheltering timber. The reserve squadron (the regiment at this time had but two) had kept its place in the woods at the edge of the open ground, and as it was found that the fire of the enemy was passing harmlessly above amidst the branches of the trees, it was thought prudent to keep it quietly in its place until the alarm of our excitable neighbors across the field should have subsided. They, however, kept up a great racket for half an hour or more, their shells and round-shot calling forth anathemas from the men of the other brigades in rear, who were disturbed in their efforts to make their coffee.

Things finally quieting down, camp was made, everybody being well satisfied to postpone the settlement of the dispute until daylight. This was one of those little affairs which are hardly mentioned in the reports, in which no glory is won, but which are constantly falling to the lot of the cavalry as a part of its legitimate work, and which add continually to the aggregate of its casualties. In this affair the First Cavalry lost its adjutant, Lieutenant A. S. CLARKE, severely wounded, and several men and horses.

We were in the saddle bright and early on the morning of the 3d, and found everything clear in our front. As the column moved out on the road the joyful news was passed along that LEE's army was in full retreat, and that Richmond was ours. The condition of the road also proclaimed, unmistakably, that we were close in the wake of a retreating army. Stragglers in butternut and grey uniforms in all stages of dilapidation were picked up in squads—the woods were literally full of them. The way was littered with broken down wagons, muskets, camp utensils, and discarded equipments of all sorts. Fires had been started in the brush by the road-side, and an abundance of artillery ammunition being scattered about, an occasional unexpected explosion added to the interest and excitement of the occasion. Three pieces of artillery were found concealed in the woods, some distance from the road, and further on we came across the caissons and limbers which had furnished the loose ammunition.

CUSTER's division had the advance, and the rattle of his carbines was soon heard as he drove before him FITZ LEE's skirmishers. The exhilarating news of the morning had rendered CUSTER's men impatient of any delay, and as the rear-guard of the retreating army became imprudently slow in its withdrawal, the gallop was taken and a brigade ridden down with the loss of its commander and many prisoners. Towards evening FITZ LEE's cavalry halted in a strong position at Deep Creek, where, with the assistance of some infantry, he hoped to repeat the performance of the previous evening. He

was, however, disappointed, as the rear divisions being hurried to the front, attacked promptly by the flank, carrying the ford and driving the hostile forces off in the direction of the Danville road. Darkness, however, prevented any effective pursuit in the unknown country, and the troops halted for the night.

Indications pointing to the concentration of LEE's retreating forces at Amelia Court House, the Fifth Corps was directed on Jettersville, on the Danville railroad, some eight miles south-west of the Court House; CROOK's division to the same place, first striking the railroad towards Burke's Junction; while General MERRITT with the other two divisions of the corps and MACKENZIE's division from the Army of the James, continued the pursuit towards Amelia Court House. General MERRITT made a bold dash for the enemy's trains near Tabernacle Church, but as they were protected by a strong force of infantry his success was only partial, the cavalry being forced to withdraw after a severe engagement.

The First Cavalry on this day (the 4th of April) accompanied General SHERIDAN, marching with the Fifth Corps until afternoon, when we trotted forward to Jettersville. Here we took possession of the station and telegraph office, and throwing out pickets prepared to dispute the further advance of the Confederate army, feeling confident, that with the General's assistance, we should be able to do so with success. Here we picked up a goodly number of stragglers in grey uniforms, who evidently thought the advance of their army was the safest place. We were soon joined by CROOK's division from the direction of Burke's Station, which arrived at an opportune moment to take a hand in repelling an attack of FITZ LEE's enterprising cavalry. The Fifth Corps arrived before night, and intrenchments having been thrown up, we felt quite secure in our position.

While we were resting at Jettersville on the night of the 4th, the divisions of DEVIN and CUSTER, with General MERRITT, were making an unpleasant night march from Tabernacle Church. They came up at an early hour on the following morning, and the First Cavalry was permitted to rejoin the brigade. The Second Corps arrived during the day and went into position on the left of the Fifth; DEVIN's and CUSTER's divisions of the cavalry going out to the left of the infantry.

During the forenoon DAVIES' brigade, of CROOK's division was sent on a reconnaissance to Fame's Cross Roads some six or seven miles north of Jettersville. Here he discovered the enemy's trains moving past our left flank and off in the direction of Deatonville. His troopers went in with a yell, captured the larger part of the es-

cort, and succeeded in burning about two hundred wagons, among which were General LEE's headquarter wagons, containing important papers. Having started his prisoners and captured mules back towards Jettersville, he soon found himself heavily engaged with a superior force of the enemy which had started out from Amelia Court House to head him off. CROOK went to his assistance with his two remaining brigades, and, as the sound of battle reached Jettersville, there seemed to be a prospect for a general engagement, in preparation for which, General MERRITT, with the divisions of DEVIN and CUSTER, was sent over to the right of the infantry to swing around on the flank and rear of the attacking force as it crowded CROOK back towards our lines. The enemy had, however, learned prudence, and let go in time to make good his retreat.

On the morning of the 6th, the Army of the Potomac was concentrated at Jettersville, the Sixth Corps having come up during the night. But General LEE had decided not to fight at Amelia Court House, and during the night had put his army in march for Rice's Station on the Lynchburg or South Side Railroad. CROOK, with his division, was off before daylight headed for Deatonsville, and having discovered the enemy's columns passing through that place made a gallant attempt, a little beyond, to reach his trains; but they were heavily guarded, and he was obliged to withdraw and look for a more vulnerable point. The Second Corps came up with the rear of the enemy at Flat Creek, and, after some delay in crossing that stream, pushed forward, skirmishing with his rear guard, towards Deatonsville. The Fifth Corps marched in pursuit on the right of the Second, and the Sixth on the left, the divisions of DEVIN and CUSTER following CROOK.

As we approached Sailor's Creek, beyond Deatonsville, the Confederate columns, with wagons and artillery, could be seen across the intervening valley and through openings in the timber, marching on higher ground on the opposite side of the stream. CROOK was making unsuccessful attempts to get at the trains, and orders were given for the two divisions in rear to pass on beyond CROOK, along the enemy's line of march, and seek a point of attack which might promise a chance of success. The First Division proceeded to follow these instructions; but what was our disgust on seeing CUSTER's division trot along the flank of our column, turn off to the right of CROOK, and dashing across the creek, without looking for a ford, charge into the midst of the enemy's trains and marching columns, almost before a formation could be made to receive its attack. Our disgust was completed when we were dismounted and marched in

double time to a position on the right of CROOK to cover the withdrawal of the Third Division with its captured flags and prisoners. However, we settled ourselves behind our rail barricades, across the road, and contented ourselves with the soldierly reflection that we had, at all events, obeyed orders.

Meanwhile, the noise of battle away off to our right and front has been steadily increasing, and we are informed that we have only to hold our position to insure the capture of a large portion of the Confederate army. This, indeed, appears to be a reasonable expectation, and there is no want of confidence that we shall be able to withstand any attempt to dislodge us.

That troublesome CUSTER, however, cannot be persuaded to keep quiet and wait to be attacked, but must needs go to yelling and charging again. Some of CROOK's men also get their horses, and a general advance being ordered, the whole corps goes forward, carrying everything in its front and completing the destruction of such portion of ANDERSON's corps as had escaped it at Five Forks. The cavalry now join hands with the Sixth Corps which has received the surrender of General EWELL with the largest part of his corps, after a contest which for severity and fierceness of fighting at close quarters has seldom been surpassed. The combined captures of the Sixth Corps and the cavalry in this battle amounted to some six or eight thousand prisoners (including six general officers), fourteen pieces of artillery, and a large number of wagons. During the day the Second Corps had attacked and driven before it GORDON's corps, on a road further to the right, capturing two thousand prisoners and four guns.

Night had fallen, but the cavalry had not quite completed its day's work. The First Division, the Reserve Brigade leading, and the First Cavalry in front, was ordered to advance on the road, just to stir things up a little and give a good-night parting shot. As we reached the crossing of a small creek about two miles out, our advance guard received a volley from the brush on the opposite bank, and an investigation by the leading squadron developed the fact that a strong force was in position on some high ground just beyond the creek. The regiment immediately took possession of a hill which commanded the creek crossing and went busily to work piling up rails for a hasty barricade, when a battery opened from the enemy's position a few hundred yards distant. So accurately had the hostile guns been pointed towards the face of this hill, that the first shell fired, struck and exploded in a pile of rails around which the men were at work, while several others fell close by. It was decided that this was not a good place to take position, and the men were withdrawn across a

deep ravine to our right, and a line was established across the road. Meanwhile the Confederate artillerymen, having cleared the face of the hill, began to distribute their favors very promiscuously amongst the troops of the division which were formed along the road and in the timber further to the rear. They quieted down, however, after a while, but another attempt to advance was sufficient to start them into renewed activity, and it became evident that it was advisable to accept the situation and wait for daylight. It transpired that the force in our front was MAHONE's division of LONGSTREET's corps, which not having been engaged during the day, was in good trim for a fight, and did not propose to be driven out of its camp after a hard day's tramp without remonstrance.

These night attacks were generally unsatisfactory in their results, the men not having much heart for fighting an enemy concealed by the darkness of night, in an unknown country; especially when, tired out with the hard work of the day, they felt that they were entitled to their coffee and a night's rest.

On the morning of the 7th, the cavalry again found itself foot-loose, striking out for Prince Edward's Court House, on a shorter line to Appomattox Station than that of necessity followed by Lee's retreating army. Crook's division was again detached on a reconnaissance to Farmville Station.

At Prince Edward's Court House, where we arrived about three P. M., we found MACKENZIE's division which had been sent forward to this place on a reconnaissance, the general line of march of the Army of the James being to the left of that of our other forces. After a short rest, the command pushed forward again on the road to Prospect Station, on the Lynchburg railroad a few miles west of Farmville, to which point MACKENZIE's division preceded us. It was after night when we unsaddled, presumably not far from the Station, although it was not visible. Our day's march of at least thirty miles had been through a country not previously reached by the Union arms, and was as peaceful and undisturbed as though no hostile force existed.

We were again in the saddle at daylight, CUSTER moving out in advance followed by DEVIN; CROOK, who had joined during the night, bringing up the rear. MACKENZIE had returned to his own army. Appomattox Court House is some four or five miles north and east of Appomattox Station, on the Cumberland Turnpike, which is the main thoroughfare to Richmond, and on which it was known that LEE's army was marching. General SHERIDAN had informed General GRANT by letter on the morning of the 8th, that he would march

with his command to Appomattox Court House, but learning through his scouts that four trains of cars loaded with supplies for LEE's army were at Appomattox Station awaiting its arrival, he first directed his march on that point, which was about twenty-five miles distant from our camp of the previous night.

The weather was fine, the roads pretty good, as Virginia roads go, and we jogged along very comfortably through a pleasant country which seemed to have felt none of the burdens of war. The freshly ploughed fields, surrounded by fences sound and whole, were in pleasing contrast to those desolate and war-worn portions of Virginia over which we had been accustomed to campaign.

Along in the afternoon CUSTER went ahead at a trot, and as we neared the station, towards evening, the sound of artillery intimated to us that he might be glad of some assistance. So urging our tired horses forward, we were soon crossing the railroad a few hundred yards east of the station, and as we came out into some open fields beyond, were hastily dismounted and sent forward into the timber, to take in flank and rear the force which had assailed CUSTER's troopers with so much noise and assurance. While we were groping through the woods in the darkness, which had now fallen, the artillery fire suddenly ceased; CUSTER, having discovered that the force opposing him was simply an escort to some wagons and reserve artillery, which had been pushed on in advance of LEE's army, settling the matter by charging with his usual impetuosity, capturing guns, trains, and escort. Meanwhile, the news which had passed around, that CUSTER's advance had surprised and captured a number of trains of cars loaded with supplies for the Confederates, was confirmed by ear splitting screeches from the captured locomotives, with which the "Wolverines" were amusing themselves on the railroad.

A line was now formed, and pushing the enemy's skirmishers before us, we soon reached the vicinity of the Court House. The three cavalry divisions passed the night on the skirmish line. Not a very comfortable or restful night; but every trooper knew that our line was squarely across the path of the retreating army, which was being vigorously pressed by the Army of the Potomac, and was prepared to keep his place at any sacrifice. The long night wore sleepily away, except that every one would be aroused to momentary vigilance by occasional sudden outbursts of carbine fire when enterprising scouts of the enemy would venture too close to our lines.

At last the grey dawn appears, and daylight creeps along; a dusky, misty morning, giving no promise of that glorious event which was, thenceforth, to make the day so memorable in the Na-

tion's calendar. An ominous silence broods; not a shot is heard. There is an anxious waiting for the attack which we know must be expected, and for the infantry which we are sure is hastening forward to our assistance. The men are trying to make their coffee at little fires started in the rear of the line, when, suddenly, the noise of conflict is heard away over to the left, in CROOK'S front. It surges along the line in our direction, and the troopers are settling themselves behind their slight barricades for the expected attack, the familiar "zip," "zip," of the flying bullets begins to be heard, when an order comes to fall back and mount. As we go to the rear to seek our horses we meet the advancing lines of the longed for infantry, our old friends of the Fifth Corps. The Army of the James is also close at hand, and although they have been marching almost continuously for the past forty-eight hours, and the men show their weariness in every movement, we know that they are conscious of the gravity of the situation and can be depended upon to hold the position against any possible assault of the Confederate army.

Again in the saddle, the cavalry stretches away in a long column to the right and front, and CUSTER'S troopers, following headquarters, with its forest of captured battle-flags, go galloping past, eliciting growls and smothered imprecations from the men of the First Division, who feel that they are entitled to the advance in their turn. Away off to the left, across an expanse of open ground, can be seen a confused mass of wagons, guns, and troops, at sight of which our men begin to cheer, not doubting that they will soon be amongst them. But there is a sudden halt; the cheering up in front grows louder; a knot of horsemen can be seen off to the left, surrounding something which looks like a white flag, and the word is passed back from the front—LEE has surrendered. The fact that a flag of truce has been sent in, and that negotiations for the surrender of the Army of Northern Virginia are in progress is soon made known; and we realize that the long chase is ended, that the great rebellion has received its death blow, and that our work is finished.

The military lessons of our civil war appear to have had but slight significance for other nations. Some of the conditions under which the operations of our armies were conducted being dissimilar to those which prevail on the continent of Europe, it was, apparently, concluded that no useful lessons could be learned, and our four year's struggle was regarded with little more interest than might have been bestowed upon a war between savage tribes. The increased independence and efficiency of the cavalry arm, due to the improvement in fire-weapons, was displayed as an object lesson which should

not have been difficult of comprehension; and yet, because the methods employed by our cavalry were opposed to old-world traditions, it has been stigmatized as mounted infantry, and the fact that it repeatedly charged infantry lines, successfully, with the saber, studiously ignored.

It is doubtful whether history affords a better example of cavalry efficiency than that displayed by SHERIDAN's cavalry in the twelve day's operations from March 29th to April 9th, 1865. By its determined fighting on the 31st of March, at Dinwiddie Court House, against vastly superior forces of cavalry and infantry combined, it thwarted the efforts of the Confederate forces to occupy that important strategic point, and prepared the way for the brilliant and decisive victory won by its incomparable leader at Five Forks on the following day. Refusing to be delayed by the rear guard of the retreating army, by vigorous marching it placed itself on the path of the enemy's retreat at Jettersville, on the 4th of April. Our generals having declined to force a general engagement at Amelia Court House, the cavalry, two days later, dashed into the retreating columns of the enemy at Sailor's Creek, delaying his march, insuring the capture of an important portion of his force, and, by forcing the beaten army off from the Danville railroad, destroying the possibility of its retreat in that direction. Finally, by persistent marching, when the powers of men and horses had been taxed to almost the last limit of endurance, the cavalry reached Appomattox Station on the evening of April 8th, capturing the supplies which had been sent to the relief of the exhausted army; then forcing the enemy's advance back to Appomattox Court House, it took position across his only remaining line of retreat, holding it with tenacity until the arrival of our infantry rendered surrender inevitable.

Nevertheless, if it may with justice be claimed that the grand result of these operations could not have been achieved without the cavalry and its impetuous leader, so it should be acknowledged that it was made possible only by the splendid fighting and marching qualities of our infantry and artillery, directed by the wisdom and intelligence of the great General-in-Chief.

MOSES HARRIS,
Captain, First Cavalry.

THE LATEST REGULATIONS FOR THE GOVERNMENT OF
THE GERMAN CAVALRY IN SCREENING AND RECON-
NOITERING DUTIES, BY A GERMAN STAFF OFFICER.

IN TWO PARTS—PART TWO.

[Prepared expressly for the JOURNAL OF THE U. S. CAVALRY ASSOCIATION.]

THE following rules apply to encounters between the vanguard and the enemy, to observation of the enemy by parties and feelers of the advanced guard, and to attack and defence at such times.

As soon as the leading patrol discovers the enemy it seeks cover from sight, reports immediately, and watches him incessantly. The leader of the patrol informs his men by signs in order that they may join him in his observations. The leading patrol, as a rule, *never* fires, and never attacks the enemy, unless specially ordered to do so; which is never done if the vanguard can be otherwise informed of the enemy's approach.

In order to observe, the patrol takes a position behind rising ground, a bush, or a house, and if necessary to escape observation, all take off their helmets; even in peace maneuvers these points are strictly observed. The leader of the support upon the report of the enemy's being near goes to the front and leaves the vanguard in a concealed position on the high-road. The leading patrol strengthened by horsemen of the support, or of the reserve, continues observing the enemy, especially his flanks.

The leader of the support, as soon as he reaches the point, reconnoiters and decides upon any further action according to circumstances and his orders. If the chief object is to obtain information, the support remains concealed while the patrols continue reconnoitering. If the officer of the advanced guard has instructions to attack the enemy for the purpose of capturing prisoners, he quickly examines the ground to determine the best method of attacking the enemy in flank and, if possible, by surprise. If the ground is unfavorable for

an attack, the officer of the advanced guard tries to prepare an ambush for the advancing enemy; or, by retreating, to draw him beyond support of the troops in his immediate rear. The commander of the troops following must, in such a case, be informed in good time by the commander of the advance party of the strength of the enemy and his own plan, in order to make coöperation possible.

If the enemy has surprised the support, the officer of the advanced guard always tries, and without regard to the strength of the enemy, to forestall the hostile attack by attacking himself, so that the following detachments, being informed of the danger, may have time to draw up for battle. No special rules for immediate action upon suddenly meeting the enemy can be laid down, and every officer acts according to his own judgment; but in no case must he allow the enemy to secure the initiative. The maxim, that the cavalry must attack the enemy first, is generally observed.

The cavalry, both of the advanced guard and the rear guard, sometimes fights on foot, *for example*: to open defiles, or to gain certain places before the enemy gets there, and to hold such till the infantry arrives, or with the rear guard to delay the enemy, or to relieve cavalry retreating through defiles.

The commander of a support, or vanguard, if he finds it necessary to fight on foot, must consider that, with the small number of carbines which he can bring into action, he cannot carry on a long continuous fire, and that he must hazard all his strength, and a considerable amount of ammunition, in order to produce a decisive effect.

In a defensive position, the estimation of distances to prominent points, by riding to them, is of great importance. If such points are lacking, the ranges 400, 600 and 800 metres, are indicated by the appearance of objects which are visible to one's troops, but not to the enemy. If there are no convenient objects for this purpose, then distances must be otherwise estimated. For this purpose, the leader keeps two of his men who are specially expert in estimating distances, near him, in order that they may indicate the distances to different points, and keep an eye on the fighting ground.

Reconnoitering and watching, especially on the flanks, is continued by mounted patrols and, during the fight, on foot. If time is to be gained or advantage to be taken of the mobility of the troops, and a decisive engagement not to be entered upon, fire is opened at a great distance. Fire is always so regulated as to secure the greatest destructive effect. It must be concentrated on favorable points,

at favorable times. A concealed and safe position for the led-horses is important.

Safety from a surprise, and cover against fire are obligatory; the led-horses are placed on the flanks of the line of skirmishers, because if placed in rear of the line, even if sheltered by low hills, they are still more or less exposed to fire. If the ground does not afford protection, the horses must be taken farther to the rear. In an engagement with cavalry, a mounted reserve is desirable; its ammunition, and that of the horse-holders, is distributed among the skirmishers.

The reconnaissance of the ground by the officer of the advanced guard is quickly made, to avoid delaying the march of the columns following, and because he has no time for stopping long to reconnoiter minutely. A previous study of the map facilitates this reconnaissance, which is intended to discover the points of observation, and the accidents of the ground, which are important for the march and the engagement.

The commander of the vanguard surveys the ground in all directions during the march, collects his memoranda at a trot, and takes advantage of a short halt to write them down in a few legible lines, which he sends to the commander of the advanced guard. If the latter wishes special information about certain places and sections of the ground, he points this out specially to the commander of the vanguard, when giving him his orders; the latter makes a special report upon it. In every other case he sends back only such messages as are important to the troops following, in regard to their march, the commissariat, or a possible engagement.

Three chief points are carefully considered by the commander of the vanguard, *when judging of the ground: the march, the provisioning of the marching troops, and the tactical advantages of the ground.* To this belongs the reconnaissance of the main road, the state of bridges, dykes, fords, country roads, defiles and woods, and the discovery of any obstacles; also, a timely report on the latter, and on the means at hand to remove them, and the preliminary measures which he has already taken for this purpose.

Especial activity is necessary in pursuing a beaten enemy, the commander of whose rear guard takes all those measures which are adapted to disturb or delay the hostile columns, by artificial or natural obstacles. Bridges will be found destroyed, either partially or wholly, by burning them or breaking them down. Dykes will be found dug through, woods made impassable by felling trees, streets by barricades, fords by throwing harrows into them, ferries by removing or sinking vessels. For making repairs, removing such obstacles, etc.,

the advanced guard is generally provided with a detachment of pioneers. The commander of the leading patrols, however, must make timely reports on the presence and the nature of such obstacles.

The leader of the support tries to ascertain whether such obstacles can be avoided or removed, or whether it is necessary to repair the road. If villages or towns are near, he demands material and workmen from the authorities, who, when the detachment of pioneers arrives, are placed at the disposal of its commanding officer. This he also reports to the rear. As soon as all the necessary or possible arrangements are made, he tries with his troops to evade the obstacle, and to continue his march. With regard to the provisioning of the troops following, the commander of the vanguard gathers information or makes arrangements only in case of having received a special order to this effect together with his first instructions.

If the main body of the advanced guard is to halt at a certain point, he takes the necessary preparatory steps to collect provisions at this point. For this purpose, he engages the authorities of the nearest villages or towns, makes the preliminary arrangements, and leaves behind a subaltern officer with a few men to watch the execution of his orders. The commander of the advanced guard must soon receive a report on the provisions found and the arrangements made. This report must *always* contain information about wells and suitable places to water the animals.

Only in rare cases has the commander of the vanguard to report on the tactical importance of certain places or sections of the ground, because this belongs to the province of the general staff officer of the advanced guard. He may, however, come into this position also. If he hits upon the enemy, and reconnoiters his position, he must describe briefly the strength of the position or the feasibility of attacking it. This order may also require a search for a suitable bivouac near the high-road, and a report thereon to the commander. Even in times of peace, the acquisition of the necessary knowledge and a proper judgment of such circumstances are deemed indispensably necessary. This is a very broad subject and cannot be treated briefly. The duties of the *reconnoitering service* require a knowledge of roads, streets, railways, water, bridges, fords, dykes, woods, hills and inhabited places. With regard to reconnaissance by the leading patrol and the support, the following rules apply:

With regard to villages, the measures for passing them safely depend on the proximity of the enemy. If there are no signs of a hostile occupation, the leading patrols ride through and round the village, whilst the following support does not stop. At places which

have a post and telegraph office, the leading patrols first examine the officials, and seize letters and telegrams. The leader of the support examines the officials, opens the letters and sends those which are of military importance to the commander of the advanced guard, giving, if required, receipts. Besides those officials, he examines the authorities and clergymen.

If the village is supposed to be occupied by the enemy, the approach is executed as secretly as possible. The commander of the leading patrol orders his horsemen to steal slowly up to the side of the village to spy the strength and dispositions of the enemy. If the enemy occupies the village, a supporting troop will usually be observed not far beyond the further exit; this point deserves attention. Woods, gorges or hills often give cover to an approach on the flanks. A reconnaissance on the flank gives a better insight into the enemy's strength and position. If villages are large, flanking patrols support the leading patrol, which is, if necessary, strengthened by the support.

If the enemy occupies the village, or is supposed to occupy it, the support stops under cover. If the village is not occupied the support trots through it; if the enemy is near, the village is passed by a detour. The leader of the support determines whether a horseman shall be left behind to keep up connection with the troops following. During the examination of authorities, etc., etc., the support stops on this side, whilst the point watches on the other side of the village.

For the reconnoitering of woods and forests by the leading patrol and the support, the following is the rule: Small woods are passed by single horsemen of the leading patrol on the high-road and by-roads, whilst others ride around them. The commander of the leading patrol reaches the other side of the wood by the shortest road. If the woods are larger, the leader of the support details flankers to move between the leading patrol and the flanking patrols. Upon reaching the opposite side of the wood, the patrols halt and carefully observe the ground in front before again advancing. Large forests are scouted to the right and left of the high-road only for a few hundred paces.

With regard to the passing and reconnoitering of defiles, the same means are employed as in the case of villages. If the enemy is supposed to be near, the support stops at a suitable place, whilst the leading and flank patrols reconnoiter to discover whether the defile is occupied by the enemy. If a defile is not supposed to be occupied by the enemy, it is passed by the point and the flank patrols at a rapid gait to reach places of observation which lie in front, as quickly as possible. The support follows at a trot.

With regard to the instructions, formation and command of the rear guard, the following is, in general, the rule :

The orders of the rear guard are to protect and to veil the retreat of the main body. It is made proportionately strong and independent by attaching to it troops of all arms; the proportion of the different arms to one another depends on the ground, the formation of the rear guard, and on the proximity and behavior of the enemy. If the enemy pursues only at a distance, and if the rear guard is not obliged to take up a fighting formation, it is divided into a main body and secondary or smaller parts similar to those of the advanced guard.

The cavalry of the rear guard, to which horse artillery is generally attached, veils the retreat, and keeps in touch with the enemy by patrols. If the enemy presses on vigorously, the rear guard halts in advantageous positions or brings a heavy artillery fire to bear on the heads of his columns, forcing him to deploy or to make detours, in either case losing time. If necessary, an obstinate resistance is made. The cavalry is on the flanks and prevents their being turned.

The distance of the rear guard from the main body is greater than is the case with the advanced guard, because a delay in the march of the main body may happen. The rear guard must neither allow itself to be driven upon the main body nor to be cut off. It must halt at the right time, and retreat at the right time. It must not fight step by step, as in this case it might be held fast in front and out-flanked. It retreats from one section of the ground to another, offering resistance, as a rule, only in favorable positions.

When passing through defiles, over bridges, dykes, and over marshy ground, etc., the reserves of the rear guard form, if possible, in a good position on a considerable front covering the mouth of the defile, so that the other troops may march away unmolested under their protection. The latter occupy then the opposite skirt of the defile to relieve the reserves. Through woods artillery and cavalry retreat first, whilst the infantry occupy the edges of the woods; afterward the infantry retreat, also. Villages which cavalry and artillery cannot pass by a detour are passed in the same manner, after which they are, if necessary, set on fire.

In order to properly conduct the difficult operations of the rear guard, great ability and coolness on the part of its commander, tenacity and discipline on that of the troops, proper use of the features of the ground, and a concentration of all the forces at hand are absolutely necessary.

Similarly to the advanced guard, a part of the cavalry forms a rear subdivision, and covers with patrols the march of the rear guard.

The task of the commander of the rear subdivision is to keep in view the movements of the enemy, especially flanking movements intended to cut off the rear guard from the main body, and to report them to the commander of the rear guard. He must also try to delay the march of the enemy as much as possible, and to hinder him from forcing the main body to fight at a disadvantage. He must also try to discover the object of the enemy's movements. He therefore causes bridges to be broken down, roads and fords to be made impassable, streets to be blocked, etc., for which purpose he collects the requisite workmen, or details soldiers to perform the work.

Sometimes an unexpected attack, especially from a good ambush, is advantageous; it obliges the enemy to deploy his forces, and thereby gives time to the main body of the rear guard to continue its movements, to leave a position, or to pass a defile. After the attack the connection with the main body is quickly taken up again, in order not to be outflanked by the enemy.

The leader of the rear subdivision does not permit stragglers or sick soldiers to remain behind. For the latter, if necessary, horses and carts are requisitioned. If this cannot be done, they are handed over to the local authorities to be taken care of, their names and regiments being stated. The rear guard further does not permit material available for military purposes to fall into the hands of the enemy, but brings it away, after procuring means of transportation from the nearest villages or towns, or destroys it.

The leader of the rear subdivision keeps up connection with the main body of the rear guard, and follows its route by exactly the same road. If the main body of the rear guard halts, it faces about, taking up a position as much concealed as possible, whence the approach of the enemy may be observed and successful opposition offered to him if he presses on.

The commander of the rear subdivision should be provided with the same articles as the commander of the vanguard. He receives similar orders and his duties are very similar to those of the commander of the vanguard. The same rules apply to them both.

As to the subdivisions and arrangements of the rear subdivision, the following are the rules:

The rear subdivision protects itself by flanking patrols and by a rear patrol. If the enemy presses it, at least a platoon remains in the immediate neighborhood of the enemy. The duty of the flanking patrols must be executed with great care because they are to discover any flanking movements of the enemy, whose intention in the

pursuit may be to fall upon the flanks of the opponent with outflanking columns.

The formation of the rear guard is similar to that of the advanced guard. Its different subdivisions face about and send their patrols at speed to the various points of observation. The distances to which they are sent are determined by the same considerations which govern in similar cases with the advanced guard, regard being chiefly paid to mutual support by the various subdivisions.

It is of special importance to observe the pursuing enemy. This is carried on by flanking patrols, and if the enemy does not press on, by the rear patrol, whose horsemen remain behind at places which offer a good view, as long as possible, and only trot after the rear subdivision if the connection with it becomes endangered, in which case they hurry to the next point of view.

The delaying of the enemy's march is effected chiefly by judiciously taking advantage of the ground and by preparing obstacles. Bridges are broken down by loosening their stringers and beams, which are brought away after the last troops have passed them; narrow streets and roads are barricaded by loaded carts, one wheel of each being removed. Fords are made impassable by harrows, plows, scythes, etc. Boats are brought to the near bank and sunk there.

For an active defense, it is best to choose defiles which the enemy cannot turn unnoticed. Wide detours by the enemy cause him to lose as much time as a fight in the defile. If the enemy make a detour the forces in the defile must be withdrawn in time.

Previous to the passage of a defile, if the enemy presses on vigorously, the rear guard will have a critical time of it. The rear troop must often make a short halt, and, if the hostile patrols approach, it must attack them, to procure the necessary time for the other bodies to pass the defile. Should the enemy be repulsed, the rear subdivision quickly passes the defile and reassembles beyond it, behind those troops which are intended to relieve it. As soon as the defile is passed, it is used to delay the enemy by obstacles within range.

The cavalry of the rear guard will, in such cases, often dismount and commence firing. If the rear guard leaves the defile, it begins a vigorous attack upon the emerging enemy, and, if possible, drives him back into the defile, using all favorable positions, and, if possible, preparing ambushes. It is important that the rear guard should withdraw before the enemy in time.

With regard to troops covering the flank during the march, the following are the rules:

They must protect the flanks from attacks, prevent reconnoitering by the enemy and keep up the connection between columns which march on parallel roads.

There are three methods of covering the flank: By flanking patrols, which are dispatched from the support on parallel roads to protect the flanks of the column; by flanking troops, which are from one-half to two squadrons strong and are dispatched by the support for the same purpose as the flanking patrols; and by flanking detachments, which are dispatched by the main body on parallel roads to protect the flanks of the main body.

The duties and the methods of the flanking patrols have already been mentioned above, when speaking of the advanced guard.

The flanking troops and the flanking detachments act independently, and must provide for their own safety. They protect themselves in front and rear by patrols, on the flanks by flanking patrols, and take care to keep up their connection with the main column. It depends on circumstances, whether the troops protecting the flank move as rapidly as the advanced guard or the main body, or whether they allow the main body to march past them, remaining in a suitable position, in order to follow it up afterwards. The flanking patrols move rapidly from one point of observation to another, remaining at each point only long enough to reconnoiter. Flanking detachments, which are designed to keep up connection between two columns marching on parallel roads, send their flanking patrols out far enough to be in touch with one another.

For the conduct of those troops which protect columns during a halt, the following is the rule:

When the marching column halts, the protecting troops perform the outpost duty. Leading and other patrols and rear guards seek good points of observation.

The divisions, in close order, take up a covering position, and connect with one another. The commander of the support, or of the rear guard, if necessary, distributes posts in front, in rear, and on the flanks. If he is already in touch with the enemy, or if the ground in front can be partly observed, patrols are dispatched, which keep him still more in touch with the enemy, or reconnoiter the ground in front.

If those protecting troops are to be replaced at the end of a march by others, detailed for outpost duty, they inform the latter of all that is known of the enemy, and do not leave their places until duly relieved.

From all that has been said about the maxims and rules of the

screening duty and reconnoitering service of the German cavalry, it is evident that they form a well organized system, the perfection of the functions of which can only be obtained by frequent and intelligently conducted maneuvers in peace. But whether the high claims which are theoretically made for the German cavalry, on the basis of long and acknowledged practical success, will be satisfied to an ideal degree in war, and whether this measure, under the effect of continual hardships and other events in war will not be considerably diminished, we would leave an open question. In any case if the German cavalry, like any other, tries to reach the ideal of performance in this department, in peace, it will approach it most nearly in war.

It may also be mentioned that all kinds of German cavalry, uhlands, dragoons, light cavalry, hussars, carbineers, and cuirassiers, without exception, are used for protecting the march and for scouting.

But, that the lance, which will probably be used by all those troops, when riding through woods, alleys, bushes, etc., and which can be seen from afar, will prove suitable for this kind of service we are inclined to deny; and would state the view of several Prussian generals, that the lance indeed makes a single horseman specially fit for attack, but renders him a clumsy rider in performing any other service.

THE NINTH UNITED STATES CAVALRY IN THE SIOUX CAMPAIGN OF 1890.

ON November 19th, 1890, three troops ("F," "I" and "K") of the Ninth Cavalry left Fort Robinson, Nebraska, and on the following day reached Pine Ridge Agency, South Dakota, where they were joined on the 26th by Troop "D" of the same regiment, and the whole was organized into the Battalion of the Ninth Cavalry, commanded by Major GUY V. HENRY, Ninth Cavalry.

Our duties in camp at the Agency were more like those in garrison than those of a life in the field against an active foe, although our time was taken up in preparing our battalion for any duty that it might be called on to perform.

The first important step was the organization of our pack train, the nucleus of which came from Fort McKinney, Wyoming, under charge of REEMER, the chief packer at that post. Details of five men from each troop were made at once, and, although there were (owing to the scarcity of mules) only five pack mules to each troop, the men were drilled daily, often after dark, in order to familiarize the packers with their duties. Our packers had reached such a state of proficiency that when, about the 10th of December, we were given five more mules to each troop, we found ourselves equipped with a sufficient number of packs to carry eight days rations for the command.

Our wheeled transportation was in an excellent condition, and there was plenty of it, each troop having three six-mule wagons.

In the meantime our commanding officer did not let the troopers be idle, nor was he satisfied with a perfunctory horse exercise. There were daily drills of the battalion, interesting to both men and officers, as they did not confine themselves to the narrow limits of "Close Column," "On First Troop, Right in Front," but were adapted to the principles of the art of attack as taught in our military schools at West Point and Fort Leavenworth, and the best of schools, that of actual warfare; particular attention being paid to rapid deployments. The gaits were rapid, and the commands were generally given by a

preconcerted system of blasts on a whistle; the necessity of the latter being daily shown, owing to the high winds and accompanying noises of the drill ground. Drills were always in overcoats and full armament, and held daily, Saturdays and Sundays excepted, in rain, sunshine, warm or cold weather. This was our daily life in camp at the Agency until December 24th, 1890, when, without a moment's notice, we were ordered to proceed to the White River.

A telegram was received at the Agency about 1 P. M. December 24th, from General MILES, saying: "I regret exceedingly that 'Big Foot' has eluded SUMNER and is making south in light order and will probably join those in the Bad Lands. * * * If a command were to move quickly from Pine Ridge a little northeast and thence down Porcupine (Wounded Knee), or in that vicinity, it might possibly intercept him."

Colonel HENRY's battalion was ordered on this duty. At 2 P. M. the order was received in camp, and at 3:30 P. M. the battalion was ready and awaiting further instructions from General BROOKE.

We were joined by a detachment of Light Battery "E," First Artillery, consisting of a detachment of ten men, two Hotchkiss guns and packs, under Lieutenant HAYDEN, First Artillery, who remained with us throughout the campaign.

We left the Agency about 2:30 P. M., and traveled with our pack train until about 6:30 P. M., when we reached "White Cow Creek," and there took supper and fed the animals; forage having been brought that far by MOORE's Fort Russell pack-train. After a halt of about one hour and a half or two hours, we again took the road and marched until we reached the White River, about 2 A. M. Then, after a short halt, we pushed on to Cottonwood Creek where we found no water, but nevertheless bivouacked there until daylight. This had been our objective point, but as we found neither wood nor water there, our destination was changed. The next morning we changed our camp to Harney (Iron) Springs, and awaited the arrival of our wagon-train and further developments. We had traveled fifty-six miles in all, or fifty before we bivouacked, about 3:30 A. M., the morning after leaving the Agency. We moved constantly at a trot and walk, and the results were favorable to both man and beast, as there was not a sore backed or lame horse in the battalion.

Our duty for the next week was confined to daily scouting. On Sunday, December 28th, in compliance with instructions from General BROOKE, we moved our camp to White River, forty-four miles below the Agency. That same day orders were received to examine the "table" (SHORT BULL's camp); so, on the morning of De-

ember 29th, about 9:30, Colonel HENRY with his battalion and the detachment of two Hotchkiss guns left camp on White River and explored the so-called impregnable fortress of the Indians in the Bad Lands. One troop scouted Porcupine Creek and returned, covering a distance of twenty-one miles each way or forty-two miles altogether. Camp was reached about 4 o'clock, when the usual duties of the camp were resumed.

News had reached us that Major WHITESIDE, Seventh Cavalry, had corralled Big Foot, and that the campaign would probably be brought to an early close. We had finished supper and had been sitting around talking, and had just dispersed to seek our "downy couches" when our adjutant suddenly announced: "BIG FOOT has attempted to break away; they have had a fight and WALLACE has been killed, and GARLINGTON and HAWTHORNE been wounded;" and then gave us orders to break camp at once. This was about 8:30 P. M. Our camp was struck, the wagons loaded, and the command was en route to the Agency at 9:30. We were in a hurry, and our gait was a rapid trot. We made three halts and reached the Agency just as reveille was sounding, 5:30 A. M.

One troop ("D") had been left behind with the wagon-train, which had dropped back about an hour and a half behind us. On arriving at the Agency we went to our old camp ground and had waited about two hours for our wagons when a courier reached us, bringing the news that our train had been attacked and was then parked about two miles from our camp.

"Boots and saddles" was immediately sounded, and we were off to the relief of our wagons. The affair amounted to the exchange of a few shots with the Indians and the loss of one poor trooper, who was shot, in the first volley, by an Indian dressed in the uniform of a cavalry soldier, with the yellow lining of his overcoat boldly displayed over his back. We proceeded to camp, and had hardly unsaddled, when we were again ordered out with the Seventh Cavalry to the Mission which was reported to be in flames. Colonel HENRY obtained permission for us to remain behind and allow the horses time for their morning feed.

About noon a courier from Colonel FORSYTH arrived in our camp saying that they (the Seventh Cavalry) were hard pressed, and to come at once. "Boots and saddles" was again sounded, and the battalion proceeded to the Mission as rapidly as our weary horses could travel. On arriving a short distance below the Mission we met the Seventh, and with the deployment of our troops, and under cover of the Hotchkiss guns, the troops of the Seventh were withdrawn,

and we all returned to our camps together. The distance traveled on this occasion was about twelve miles.

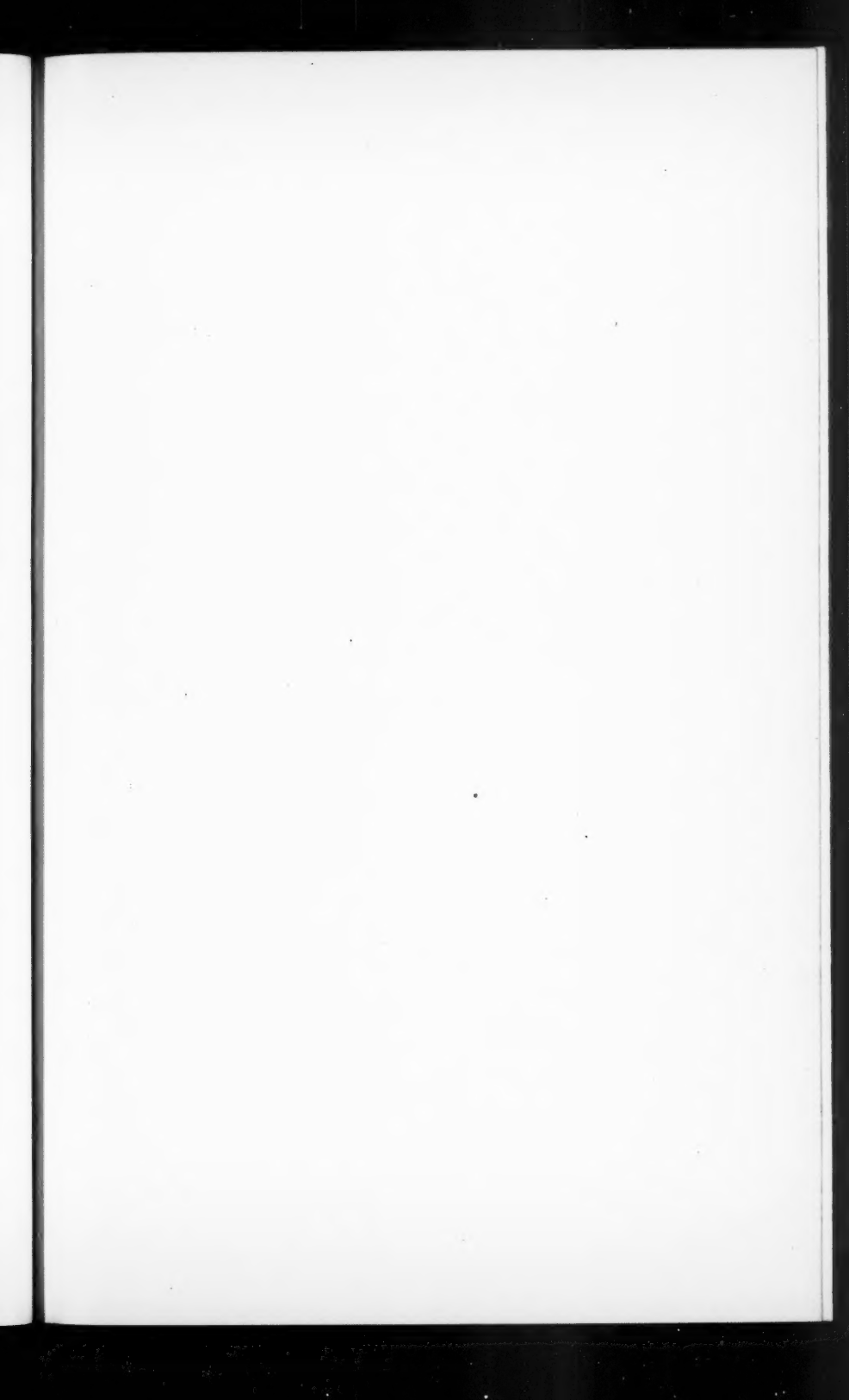
This much for the marching of our battalion; between 9:30 A. M. on the 29th, and 4 P. M. on the 30th of December, we had marched one hundred and two miles, this in thirty and a half hours, including the several hours rest that we had taken at the Agency, and two skirmishes with the Indians. Our gait had been almost constantly the trot.

The advantage of this gait is that the men are kept awake, and lounging in the saddle is impossible. The horses had an unusually heavy load, consisting of blanket-lined horse covers, and two hundred and twenty rounds of carbine and twenty-four rounds of revolver ammunition, weighing about twenty-five pounds, besides the usual pack.

In the battalion there was not a sore backed horse, and the only case of lameness that came to my notice was that of my own horse, which I had had shod for the first time only a week before.

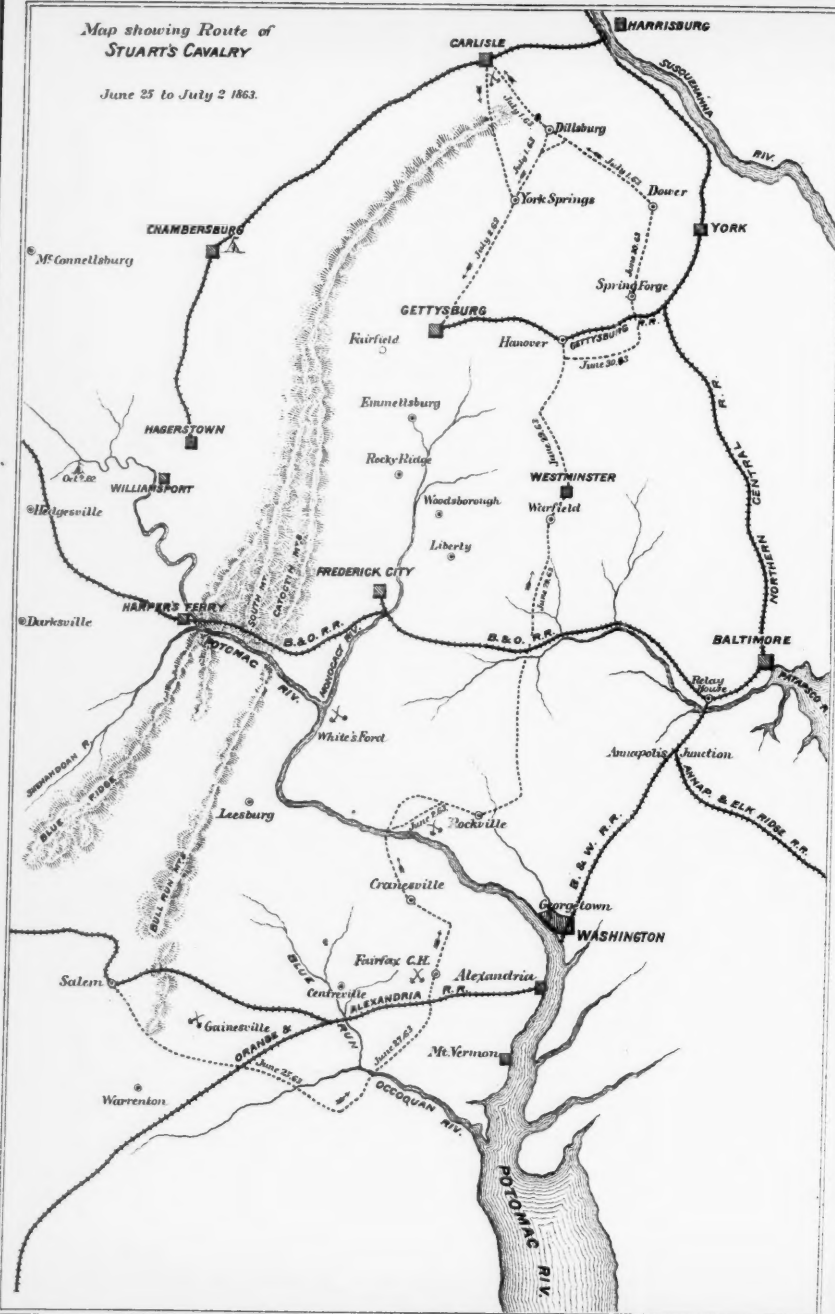
Our casualties among the horses were two; one dropped dead on our return from the Mission, and another two days later, from exhaustion.

ALEX. W. PERRY,
Lieutenant, Ninth Cavalry.



Map showing Route of
STUART'S CAVALRY

June 25 to July 2 1863.



ADDRESS OF GENERAL JAMES H. KIDD, AT THE DEDICATION OF MICHIGAN MONUMENTS UPON THE BATTLE FIELD OF GETTYSBURG, JUNE 12, 1889.

THE duty of writing a sketch of "The Operations of the Michigan Cavalry Brigade in the Gettysburg Campaign," is one which the writer would fain have shirked, had the summons come from a source which he felt at liberty to disobey. It would seem, indeed, that the work had already been done, and well done, so that it will be difficult to add to it anything of positive and permanent value.

It is now nearly five years since the dedication of yonder granite shaft,* erected through the liberality of a number of survivors of those who fought here twenty-six years ago, and intended to mark the exact spot where the fierce hand-to-hand saber contest between the hardy Wolverines and the flower of Southern cavaliers took place. On that occasion a distinguished son of the Keystone State,† himself a trooper of GREGG's command, delivered a finished and exhaustive oration upon "The Cavalry Fight on the Right Flank at Gettysburg." It was admirably done, evidently a labor of love, and characterized by a spirit of fairness, a moderation, and a judicial tone highly commendable. To peruse its glowing periods is to visit again these scenes. To the writer it is more. It brings back with full force, as if it were but yesterday, the events of that bright July day in 1863, when GREGG and CUSTER crossed swords with STUART, HAMPTON and FITZHUGH LEE; when the fate of this nation hung suspended by a thread on the plains and heights of Gettysburg. He is once more seated on his horse, in front of his squadron of the Sixth Michigan Cavalry, to the left of PENNINGTON's battery, watching the tumult that is going on below. He hears the rumble and roar, as the earth quakes under the terrible artillery duel on Cemetery Hill; the sputter of the carbines as ALGER's dismounted skirmishers drive back the

* Erected by the survivors of GREGG's (Second) cavalry division and of CUSTER's (Michigan) brigade.

† Colonel BROOKE-RAWLE, of Philadelphia.

Confederate line; the roar of PENNINGTON'S guns; the yells of the troopers as they charge and countercharge. The entire plan is spread out like a picture, and he can see it all again.

A debt of gratitude is hereby acknowledged to Colonel BROOKE-RAWLE. But, with all due deference to the brilliant orator, it must be said that he speaks with an almost too evident partiality for Pennsylvania and the Second Cavalry Division. His encomiums upon Michigan are perfunctory, and not from the heart. Bright and imperishable chaplets of laurel were gathered here, and our friend would loyally place them upon the brow of his own ideal hero, and not upon that of "LANCELOT or another."

But there were honors enough to go around, and General GREGG and his command, with their brilliant record, can well afford to render unto CUSTER and his Michigan Brigade that which is their due. Twice, during the war, the Michigan Cavalry Brigade came opportunely to the relief of the Second Division—once at Gettysburg, again at Hawes' Shop, May 28, 1864. The mind does not dare consider what might have been the result on either of these occasions had CUSTER been eliminated as a factor in the contest. If the order which took him to the Hanover Pike on July 3, 1863, was, as KILPATRICK intimates in his report, "a mistake," it was a most fortunate blunder. This, Colonel RAWLE would doubtless be one of the first to admit.

There are some controverted questions concerning the battle which took place on this ground. There are certain differences which, surrounded by the mists of doubt and distance, it is hard to reconcile. The official reports, many of them, are meagre, some misleading. The Michigan regiments seem to have been peculiarly unfortunate in this regard. I was unable to find in the War Records office in Washington the official report, written in 1863, of a single one of their commanding officers, covering the operations of the Gettysburg campaign. The maps received from the United States Engineers' office were sent to me with a caution that they must not be regarded as official, since the positions occupied by the different commands have not all, as yet, been definitely determined.

I shall, in the following pages, hew to the line as closely as possible, and endeavor to be as accurate as the accessible data and my ability will permit.

The Michigan Brigade was the outgrowth of the reorganization of the Federal cavalry that followed LEE'S invasion of the north and HOOKER'S consequent movement into Maryland. It consisted, originally, of three regiments—the Fifth, Sixth and Seventh. They were

all organized in 1862, and, at the time which we are considering, were, in the language of another, "fresh from pastures green."* The commanding officer was Brigadier General J. T. COPELAND, a Michigan man, promoted from the colonelcy of the Fifth. The battalion commanders were, respectively, Colonels RUSSELL A. ALGER, GEORGE GRAY and WILLIAM D. MANN. The first had seen service in the Second Michigan as captain and major, under Colonels GORDON GRANGER and P. H. SHERIDAN; the last in the First Michigan, under BRODHEAD and TOWN. Colonel GRAY was appointed from civil life, and was having his first experience of "war's rude alarms."

At two o'clock on Thursday morning, June 25, 1863, the brigade, with its division, under STAHEL, left its camp in Fairfax county, Virginia, where it had been maintaining a cordon of videttes around the Department of Washington, and the head of column turned toward Edwards' Ferry, on the Potomac river, the Sixth Michigan acting as rear guard. The march was slow, the roads being blocked with wagons, artillery, ambulances, and the other usual impediments of a column of troops in active service. It was long after dark when the rear guard reached the ford. The night was cloudy and there was no moon. The river was nearly, if not quite, a mile wide, the water deep and the current strong. The only guide to the proper course was to follow those in advance; but, as horse succeeded horse, they were gradually borne farther and farther down the stream, away from the ford into deeper water. By the time the Sixth reached the river the water was nearly to the tops of the saddles. Marching thus through the inky darkness, guided mostly by the sound of splashing hoofs in front, there was imminent danger of being swept away, and few, except the most reckless, drew a long breath until the distance had been traversed and our steeds were straining up the steep and slippery bank upon the opposite side.

But, safely across the river, the column did not halt for rest or food, but pushed on into Maryland. To add to the discomfort, a drizzling rain set in. The guide lost his way, and it was two o'clock in the morning when the rear guard halted for a brief bivouac in a piece of woods, near Poolesville. Wet, weary, hungry, and chilled to the marrow, as they were, it was enough to dispirit the bravest men. But there was no murmuring, and, at daylight, the march was resumed. That day (26th) we passed the First Army Corps, commanded by the lamented REYNOLDS, and reached the village of Frederick as the sun was setting. The clouds had cleared away, and a more enchanting vision never met human eye than that which

*Colonel BROOKE-RAWLE'S oration.

appeared before us as we debouched from the narrow defile up which the road from lower Maryland ran, on the commanding heights that overlooked the valley. The town was in the center of a most charming and fertile country, and around it thousands of acres of golden grain were waving and nodding in the sunlight. The rain of the early morning had left in the atmosphere a mellow haze of vapor which reflected the sun's rays in tints that softly blended with the summer colorings of the landscape. An exclamation of surprise ran along the column as each succeeding trooper came in sight of this picture of nature's own painting. But, more pleasing still, were the evidences of loyalty which greeted us on every hand as we entered the village. The stars and stripes floated above many buildings, while from porch and window, from old and young, came manifestations of welcome. The men received us with cheers, the women with smiles and waving of handkerchiefs. That night we were permitted to go into camp and enjoy a good rest, in the midst of plenty and among friends.

On Saturday morning (27th), much refreshed, with horses well fed and groomed, and haversacks replenished, the Fifth and Sixth moved on to Emmitsburg, the Seventh having gone through the Catoctin valley by another road.

On Sunday (28th), the Fifth and Sixth, the former leading, moved by way of the Emmitsburg pike to Gettysburg. Thus it was that General R. A. ALGER had the honor of leading the first Union troops into the place that was so soon to give its name to one of the great historic and decisive battles of the ages.* It was a gala day. The people were out in force, and in their Sunday attire to welcome the troopers in blue. The church bells rang out a joyous peal, and dense masses of beaming faces filled the streets as the narrow column of fours threaded its way through their midst. Lines of men stood on either side with pails of water or apple butter; others held immense platters of bread. Ladies took the slices, covered them with apple butter, and passed a "sandwich" to each soldier as he passed. At intervals of a few feet were bevyes of women and girls, who handed up bouquets and wreaths of flowers. By the time the center of the town was reached, every man had a bunch of flowers in his hand, or a wreath around his neck. Some even had their horses decorated, and the one who did not get a share was a very modest trooper indeed. The people were overjoyed, and received us with an enthusiasm and hospitality born of full hearts.

Turning to the right, the command went into camp a little out-

* BUFORD's (First) Division did not arrive until the next day, (29th).

side the town, in a field where the horses were up to their knees in clover, and it made the poor famished animals fairly laugh. That night a squadron was sent out about two miles to picket on each diverging road. It was my duty, with a squadron, to guard the Cash-town pike, and a very vivid remembrance is yet retained of the "vigil long" of that July night, during which I did not once leave the saddle, dividing the time between the reserve post and the line of videttes. No enemy appeared, however, and, on Monday (29th) the Michigan regiments returned to Emmittsburg, the First Cavalry Division coming up to take their place in Gettysburg. In this way it came to pass that heroic JOHN BUFORD, instead of the Fifth and Sixth Michigan, had the honor of meeting the Confederate advance on July 1st.

At Emmittsburg it was learned that many changes had occurred. Among them, KILPATRICK succeeded STAHEL, and CUSTER was in place of COPELAND. The Michigan Brigade had been strengthened by adding the First Michigan Cavalry, a veteran regiment that had seen much service in the Shenandoah valley under BANKS, and in the second Bull Run campaign with POPE. It was organized in 1861, and went out under Colonel T. F. BRODHEAD, a veteran of the Mexican war, who was brevetted for gallant conduct at Contreras and Churubusco, while serving as lieutenant in the Fifteenth United States Infantry. He was mortally wounded August 30, 1861, at Bull Run. His successor was C. H. TOWN, who, at the time of which we are speaking, was colonel of the regiment. He also was severely wounded in the same desperate charge wherein BRODHEAD lost his life. There had also been added to the brigade, Light Battery "M," Second United States Artillery, consisting of six rifled pieces, and commanded by Lieutenant A. C. M. PENNINGTON.

The Third Division was now ordered to concentrate in the vicinity of Littlestown, to head off STUART, who, having made a detour around the rear of the Army of the Potomac, crossed the river below Edwards' Ferry on Sunday night, June 28th, and with three brigades under HAMPTON, FITZHUGH LEE and CHAMBLISS, and a train of captured wagons, was moving northward, looking for the Army of Northern Virginia, between which and him was MEADE's entire army. On Monday night he was in camp between Union Mills and Westminster, on the Emmittsburg and Baltimore pike, about equi-distant from Emmittsburg and Gettysburg. KILPATRICK at Littlestown was directly across STUART's path, the direction of the latter's march indicating that he, too, was making for Littlestown, which place is on a direct line from Union Mills to Gettysburg.

On the morning of June 30th, KILPATRICK's command, which had been scouting through the entire country east and southeast of Gettysburg, in search of STUART's raiding column, was badly scattered. A part of it, including the First and Seventh Michigan and PENNINGTON's battery, was at Abbottstown, a few miles north of Hanover; FARNSWORTH's brigade at Littlestown, seven miles southwest of Hanover. The Fifth and Sixth Michigan, after an all night's march, also arrived at Littlestown at daylight. The early morning hours were consumed in scouring the country in all directions, and information soon came in to the effect that STUART was headed for Hanover. Thither FARNSWORTH, with the First Brigade, went, leaving Littlestown about 9 or 10 A. M. The portion of the command that was in the vicinity of Abbottstown was also ordered to Hanover. The Fifth and Sixth Michigan were left for a time at Littlestown: Troop "A" of the Sixth, under Captain THOMPSON, going on a reconnaissance toward Westminster, and Colonel ALGER with the Fifth on a separate road in a similar direction.

The Sixth remained in the town until a citizen came running in, about noon, reporting a large force about five miles out toward Hanover. This was FITZHUGH LEE's brigade, and, to understand the situation, it will be necessary, briefly, to describe how STUART was marching. When he turned off the Baltimore pike, some seven miles southeast of Littlestown, he had ten miles, due north, to travel, before reaching Hanover. From Littlestown to Hanover is seven miles, the road running northeasterly, making the third side of a right-angled triangle. STUART thus had the longer distance to go, and KILPATRICK had no difficulty in reaching Hanover first. STUART marched with CHAMBLISS leading, HAMPTON in rear, the trains sandwiched between the two brigades, and FITZHUGH LEE well out on the left flank to protect them.

FARNSWORTH marched through Hanover, followed by the pack trains of the two regiments that had been left in Littlestown. The head of STUART's column arrived just in time to strike the rear of FARNSWORTH, which was thrown into confusion by a charge of the leading Confederate regiment. The pack trains were cut off and captured. FARNSWORTH, however, dashing back from the head of the column, faced the Fifth New York Cavalry to the rear, and by a counter charge, repulsed the North Carolinians, and put a stop to STUART's further progress for that day.

In the meantime, when the citizen came in with the news of FITZHUGH LEE's appearance, "To horse" was sounded, and Colonel GRAY led the Sixth Michigan on the Hanover road towards the point

indicated. Several citizens, with shot guns in their hands, were seen going on foot on the flank of the column trying to keep pace with the cavalry, and apparently eager to participate in the expected battle. When within a mile of Hanover, the regiment turned off into a wheat field, and, mounting a crest beyond, came upon FITZHUGH LEE's brigade, with a section of artillery in position, which opened upon the head of the regiment (then moving in column of fours), with shell, wounding several men and horses. Lieutenant POTTER, of Company "C," had his horse shot under him. Colonel GRAY, seeing that the force in front of him was preparing to charge, and aware that one raw regiment would be no match for a brigade of veteran troops, made a detour to the left, and sought by a rapid movement to unite with the command in Hanover; Major WEBER, with one squadron, being entrusted with the important duty of holding the enemy in check while the other companies effected their retreat. Right gallantly was this duty performed. Three charges upon the little band were as often repulsed by the heroic WEBER, and, with such determination did he hold to the work, that he was cut off and did not succeed in rejoining the regiment until about 3 o'clock next morning.

Colonel ALGER, with the Fifth and Company "A" of the Sixth, also had a smart encounter with the same force, holding his own against much superior numbers, by the use of the Spencer repeating carbines, with which his regiment was armed.

Soon after noon, the entire division united in the village of Hanover, and a vigorous skirmishing was kept up until dark with STUART's men, who had retired to a commanding position on the hills south of the town.

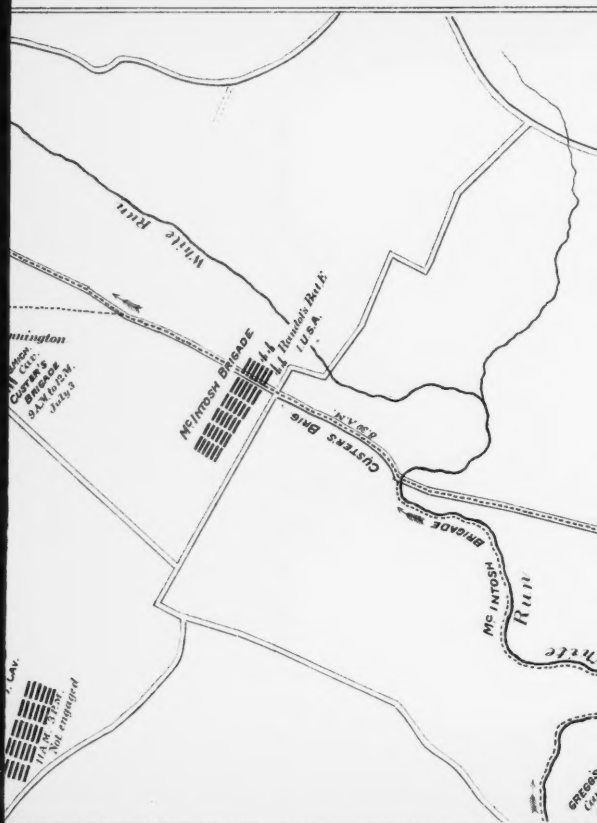
It was here that the Michigan Brigade first saw CUSTER, when he appeared mounted on his horse, riding close up to the line of skirmishers, who had been dismounted to fight on foot, giving orders in a tone that was resolute and, to us, reassuring.

Under his skillful hands the four regiments were soon welded together as a coherent unit, acting so like one man that the history of one is apt to be the history of the other, and it is often difficult to draw the line where the credit that is due to one leaves off and that which should be given to another begins.

The result of the day at Hanover was that STUART was driven still farther away from a junction with LEE. He was obliged to turn to the east, making a wide detour by way of Jefferson and Dover; KILPATRICK meanwhile maintaining his threatening attitude on the inside of the circle which the redoubtable Confederate was traversing, forcing the latter to swing clear around to the north as far as Carlisle,

where he received his first reliable information as to the whereabouts of LEE. It was the evening of July 2d when he finally reached the main army. The battle had been then going on for two days, and the issue was still in doubt. During that day (2d) both STUART and KILPATRICK were hastening to rejoin their respective armies, it having been decided that the great battle would be fought out around Gettysburg. GREGG's division had been guarding the right flank of MEADE's army on the ground where we now stand, but at nightfall it was withdrawn to a position on the Baltimore turnpike near the reserve artillery.

KILPATRICK reached the inside of the Union lines in the vicinity of Gettysburg late in the afternoon, at about the same hour that HAMPTON, with STUART's leading brigade, arrived in Hunterstown, a few miles northeast of Gettysburg. It was about 5 o'clock in the afternoon when the Third Division, moving in column of fours, was halted temporarily, awaiting orders to go in, and listening to the artillery firing close in front, when a staff officer of some infantry commander rode rapidly along the flank of the column, crying out as he went, "LITTLE MAC is in command, and we are whipping them." It was a futile attempt to evoke enthusiasm and conjure victory with the magic of McCLELLAN's name. There was scarcely a faint attempt to cheer. There was no longer any potency in a name. Soon thereafter, receiving orders to move out on the road to Abbottstown, KILPATRICK started in that direction, CUSTER's brigade leading, with the Sixth Michigan in advance. When nearing the village of Hunters-town, on a road flanked by fences, the advance encountered a heavy force of Confederate cavalry in position. A mounted line was formed across the road, while there were dismounted skirmishers behind the fences on either side. The leading squadron of the Sixth, led by Captain H. E. THOMPSON, boldly charged down the road, and at the same time two squadrons were dismounted and deployed on the ridge to the right, PENNINGTON's battery going into position in their rear. The mounted charge was a most gallant one, but THOMPSON, encountering an overwhelmingly superior force in front, and exposed to a galling fire on both flanks, as he charged past the Confederates behind the fences, was driven back, but not before he himself had been severely wounded, while his first lieutenant, S. H. BALLARD, had his horse shot under him and was left behind, a prisoner. As THOMPSON's squadron was retiring, the enemy attempted a charge in pursuit, but the dismounted men on the right of the road kept up such a fusillade with their Spencer carbines, aided by the rapid discharges from PENNINGTON's battery, that he was driven back in great confusion.



Winnington
Custer's
BRIGADE
9 A.M. to 2 P.M.
July 3

MCINTOSH BRIGADE

Mcintosh's Bn. A.
U.S.A.

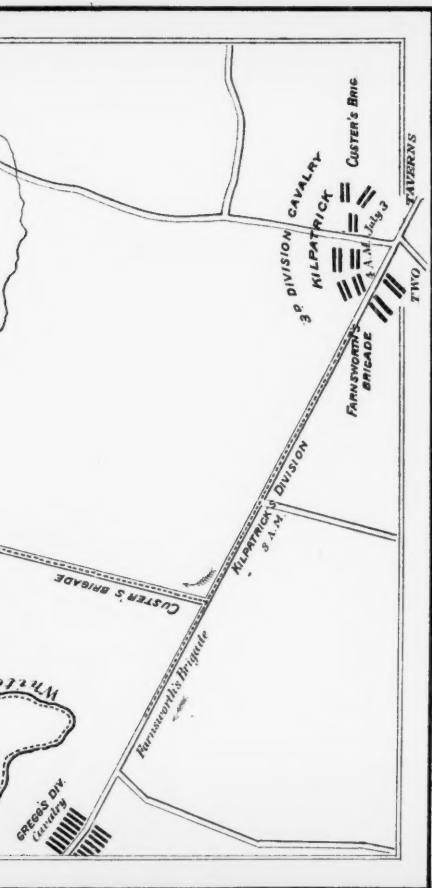
CUSTER'S BRIG.

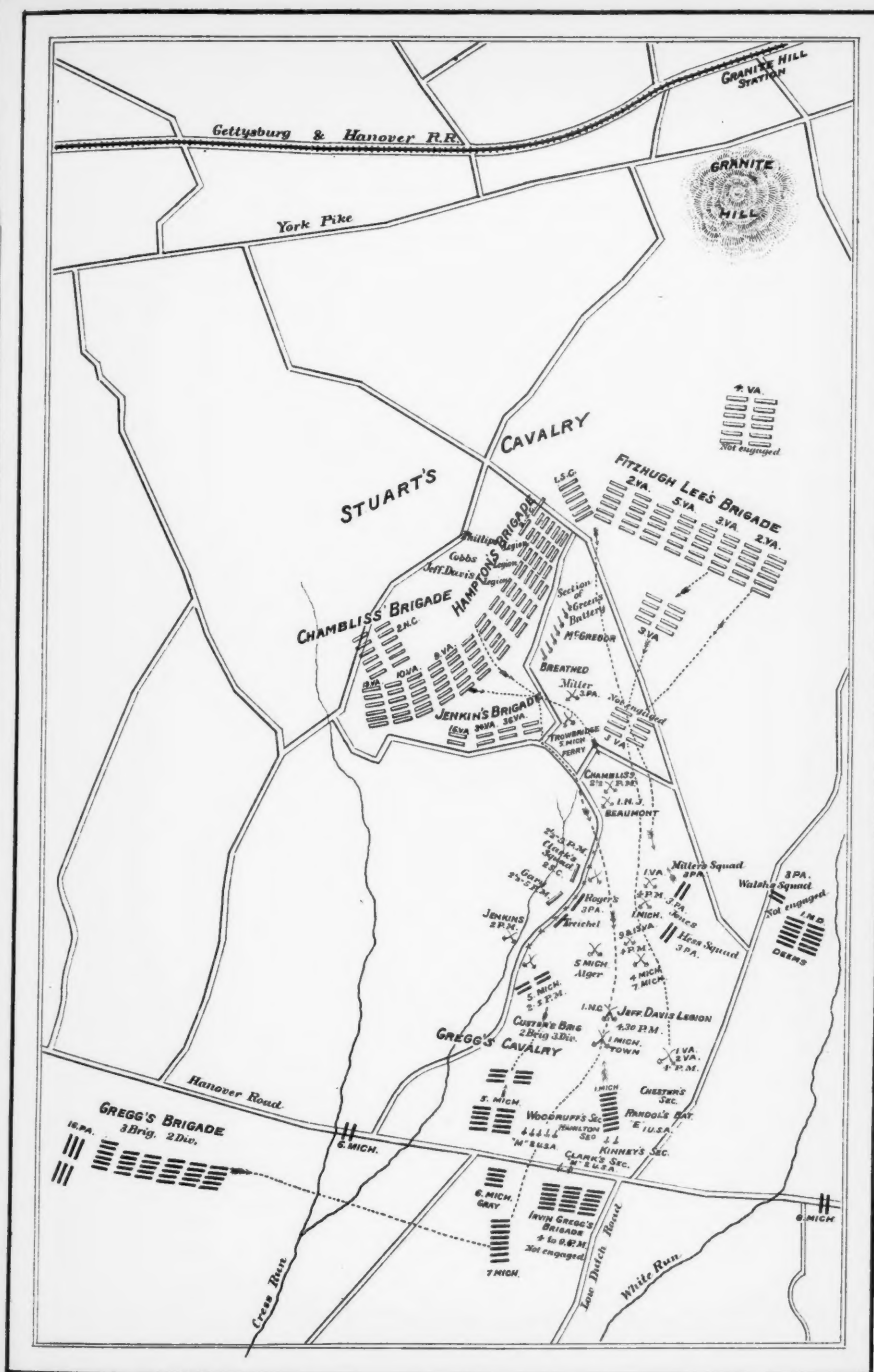
McINTOSH
Run

White

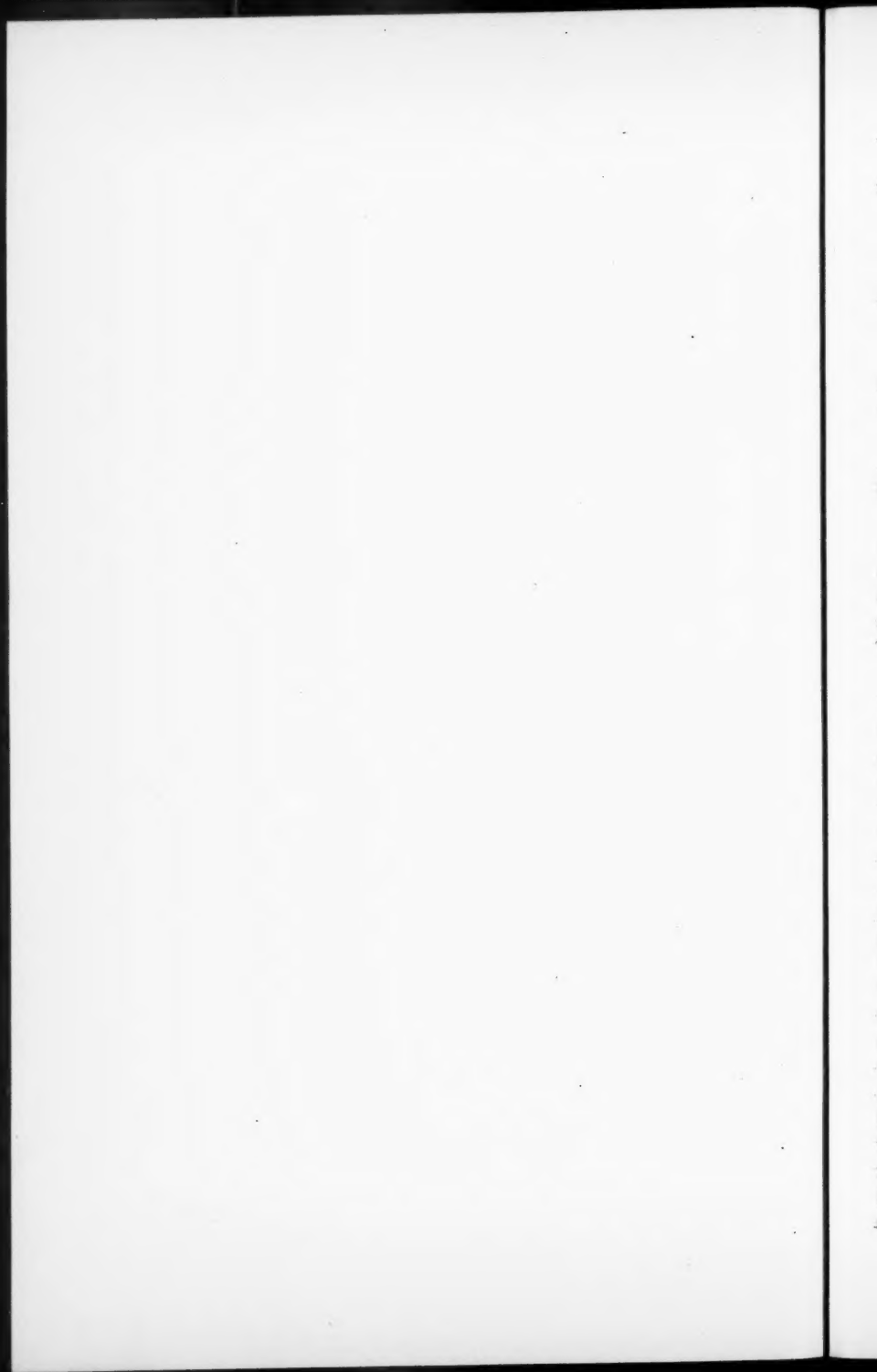
GREGG'S

11 A.M. 3 P.M.
Not engaged





Map of the Field of Operations of Gregg's (Union) and Stewarts (Confederate) Cavalry at the BATTLE of GETTYSBURG July 3 1863 2 to 5 P.M.



General KILPATRICK, speaking of this engagement in his official report, says:

"I was attacked by STUART, HAMPTON and FITZHUGH LEE near Hunterstown. After a spirited affair of nearly two hours, the enemy was driven from this point with great loss. The Second Brigade fought most handsomely. It lost, in killed, wounded and missing, thirty-two. The conduct of the Sixth Michigan Cavalry and PENNINGTON's battery is deserving of the highest praise."

On the other hand, General HAMPTON states that he received information of KILPATRICK's advance upon Hunterstown, and was directed by STUART to return and meet it. "After some skirmishing, the enemy attempted a charge, which was met in front by the COBB Legion, and on either flank by the PHILLIPS Legion and the Second South Carolina Cavalry."

This position was held until 11 o'clock that night, when KILPATRICK received orders to move to Two Taverns, on the Baltimore pike, about five miles southeast of Gettysburg, and some three miles due south from this place. It was 3 o'clock in the morning (KILPATRICK says daylight) when CUSTER's brigade went into bivouac at Two Taverns.

One of the most singular, not to say amusing, things in Colonel BROOKE-RAWLE's oration, is the statement that CUSTER, "after his fight with the Confederate cavalry at Hunterstown, *spent the night of July 2d* in bivouac with the rest of the Third Division at Two Taverns." Having had the honor to command the three companies of the Sixth Michigan Cavalry that were dismounted to the right of the road at Hunterstown, I remember distinctly that they were kept on that line until near midnight, when the division moved away; and I also remember well the weary night march, which lasted until the first streaks of dawn had begun to appear in the east. It was then, and not till then, that CUSTER's men were permitted to stretch their limbs upon the ground and snatch a brief rest, preparatory to the work of the coming day. The manner in which the Sixth Michigan Cavalry "spent the night" is pretty indelibly photographed upon the memory of every survivor who served with it in the Gettysburg campaign; and never were the experiences of a single night less calculated to prepare soldiers for the tremendous duties of the succeeding day, than were those which the Michigan Brigade underwent on the night of July 2, 1863. From the time when the Fifth and Sixth regiments left Emmittsburg on the afternoon of June 29th, they had hardly been given a moment for rest, and had been in motion by night as well as by day. It may be surmised, therefore, that CUSTER's men

were not "fresh," if they were from "pastures green,"* when, early on the morning of July 3d, they came upon this now historic ground, ready and willing to do their part in the great conflict that was impending.

The Second Division, which held this position on July 2d, as has been seen, was withdrawn in the evening to the Baltimore pike, "to be available for whatever duty they might be called upon to perform on the morrow." On the morning of the 3d, GREGG was ordered to resume his position of the day before, but states in his report that the First and Third Brigades (McINTOSH and IRVIN GREGG) were posted on the right of the infantry about three-fourths of a mile nearer the Baltimore and Gettysburg pike, because he learned that the Second Brigade (CUSTER's) of the Third Division was occupying his position of the day before.

General KILPATRICK in his report says:

"At 11 P.M. (July 2d) received orders to move (from Hunterstown) to Two Taverns, which point we reached at daylight. At 8 A. M. (July 3d) received orders from headquarters Cavalry Corps to move to the left of our line and attack the enemy's right and rear *with my whole command*, and the reserve brigade. By some mistake General CUSTER's brigade was ordered to report to General GREGG, and he (CUSTER) did not join me during the day."

General CUSTER, in his report, gives the following, which is without doubt the true explanation of the "mistake." He says:

"At an early hour on the morning of the 3d, I received an order through a staff officer of the brigadier general commanding the division (KILPATRICK) to move at once with my command and follow the First Brigade (FARNSWORTH) on the road leading from Two Taverns to Gettysburg. Agreeably to the above instructions my column was formed and moved out on the road designated, when a staff officer of Brigadier General GREGG, commanding the Second Division, ordered me to take my command and place it in position on the pike leading from York† (Hanover) to Gettysburg, which position formed the extreme right of our line of battle on that day."

Thus it is made plain that there was no "mistake" about it. It was GREGG's prescience. He foresaw the risk of attempting to guard the right flank with only the two decimated brigades of his own division. With him, to see was to act. He took the responsibility of intercepting KILPATRICK's rear and largest brigade, turning it off the Baltimore pike to the right, instead of allowing it to go to the left as it had been ordered to do, and thus, doubtless, a serious disaster was averted. It makes us tremble to think of what might have been, of what in-

* Colonel BROOKE-RAWLE, referring to CUSTER's brigade, employs this language.

†CUSTER in his report mistakes the York for the Hanover road.

evitably must have happened had GREGG, with only the two little brigades of McINTOSH and IRVIN GREGG and RANDOL's battery, tried to cope single-handed with the four brigades and three batteries, comprising the very flower of the Confederate cavalry and artillery, which those brave knights—STUART, HAMPTON and FITZHUGH LEE—were marshaling in person on Cress's ridge. If CUSTER's presence on this field was opportune, and, as has often been said, providential, it is to General D. McM. GREGG to whom, under Providence, the credit for bringing him here is due. GREGG was a great and a modest soldier; let us pause a moment before we enter upon a description of the coming battle, to pay to him the tribute of our admiration. In the light of all the official reports, put together link by link, so as to make one connected chain of evidence, we can see that the engagement which took place here almost twenty-six years ago, was, from first to last, a well planned battle, in which the different commands were maneuvered and placed with the same sagacity displayed by a skillful chess player in moving the pieces upon a chess board; in which every detail was the fruit of the brain of one man, who, from the time when he turned CUSTER to the northward until he sent the First Michigan thundering against the brigades of HAMPTON and FITZHUGH LEE, made not a single false move; who was distinguished not less for his intuitive foresight than for his quick perceptions at critical moments.

That man was General DAVID McM. GREGG.

This conclusion has been reached by a mind not—certainly not—predisposed in that direction, after a careful recent study and review of all the information within reach bearing upon that eventful day. If the Michigan Brigade won honors here that will not perish, it was to GREGG that it owed the opportunity, and his guiding hand it was that made its blows effective. We shall see how, later in the day, he again boldly took responsibility at a critical moment and held CUSTER to his work on the right, even after the latter had been ordered by higher authority than he (GREGG), to rejoin KILPATRICK, and after CUSTER had begun the movement.

Now, having admitted, and, I think, demonstrated, how GREGG did the planning, let us briefly show how CUSTER and his brigade, for the greater part, at least, did the fighting.

Following the example of my predecessor in this field, I propose to halt and let CUSTER tell his own story up to a certain point, when the narrative will be resumed:

"Upon arriving at the point designated, I immediately placed my command in position, facing towards Gettysburg. At the same time

I caused reconnaissances to be made on my front, right and rear, but failed to discover any considerable force of the enemy. Everything remained quiet until 10 A. M., when the enemy appeared on my right flank and opened upon me with a battery of six guns. Leaving two guns and a regiment to hold my first position and cover the road leading to Gettysburg, I shifted the remaining portion of my command, forming a new line of battle, at right angles to my former position. The enemy had obtained correct range of my new position, and was pouring solid shot and shell into my command with great accuracy. Placing two sections of Battery "M," Second Regular Artillery, in position, I ordered them to silence the enemy's battery, which order, notwithstanding the superiority of the enemy's position, was done in a very short space of time. My line, as it then existed, was shaped like the letter L. The shorter branch, formed of one section of Battery "M" (CLARK's), supported by four squadrons of the Sixth Michigan Cavalry, faced towards Gettysburg, covering the pike; the long branch, composed of the two remaining sections of Battery "M," supported by a portion of the Sixth Michigan Cavalry on the left, and the First Michigan Cavalry on the right—with the Seventh Michigan Cavalry still further to the right and in advance—was held in readiness to repel any attack on the Oxford (Low Dutch) road. The Fifth Michigan was dismounted and ordered to take position in front of center and left. The First Michigan was held in column of squadrons to observe the movements of the enemy. I ordered fifty men to be sent one mile and a half on the Oxford* (Low Dutch) road, and a detachment of equal size on the York (Hanover) road, both detachments being under command of the gallant Major WEBER, who, from time to time, kept me so well informed of the movements of the enemy, that I was enabled to make my dispositions with complete success."

General CUSTER says further, that, at twelve o'clock, he received an order directing him, on being relieved by a brigade of the Second Division, to move to the left and form a junction with KILPATRICK; that on the arrival of Colonel McINTOSH's brigade he prepared to execute the order; but, to quote his own language: "Before I had left my position, Brigadier General GREGG, commanding the Second Division, arrived with his entire command. Learning the true condition of affairs and rightly conjecturing that the enemy was making his dispositions for vigorously attacking our position, Brigadier General GREGG ordered me to remain in the position I then occupied."

I have given so much space to these quotations because they cover a controverted point. It has been claimed, and General GREGG seems to countenance that view, that CUSTER was withdrawn, and that McINTOSH, who was put in his place, opened the fight, after which GREGG brought CUSTER back to reinforce McINTOSH. So far

*General CUSTER in his report erroneously speaks of the Hanover as the "York" road, and the Low Dutch as the "Oxford."

from this being true, it is just the reverse of the truth. CUSTER did not leave his position. The battle opened before the proposed change had taken place, and MCINTOSH was hurried in on the right of CUSTER. The fact is, the latter was reluctant to leave his post — knew he ought not to leave it. He had already been attacked by a fire from the artillery in position beyond the RUMMEL buildings. Major WEBER, who was out on the cross road leading northwest from the Low Dutch road, had observed the movement of STUART's column, headed by CHAMBLISS and JENKINS, past the STALLSMITH farm to the wooded crest behind RUMMEL's, and had reported it to CUSTER. CUSTER did indeed begin the movement. A portion of the Sixth Michigan, and possibly of the Seventh, had been withdrawn, when he met GREGG coming on the field and explained to him the situation—that the enemy was "all around," and preparing to "push things." GREGG told him to remain where he was, and that portion of the brigade which was moving away halted, countermarched, and reoccupied its former position. The Fifth Michigan had not been withdrawn from the skirmish line, and PENNINGTON's guns had never ceased to thunder their responses to the Confederate challenge.

Colonel BROOKE-RAWLE unwittingly endorses this view of the case; for, after having said in one part of his oration that "as soon as CUSTER, with his brigade, had moved off for the purpose of joining KILPATRICK near Round Top," he, later, goes on to say that "the Confederate battery now opened fire, and PENNINGTON, who was *still in position* near the SPANGLER house, replied with promptness." It is absurd to suppose that CUSTER, "with his brigade," could be on the way to join KILPATRICK, while PENNINGTON was "still in position," replying to the Confederate artillery. Battery "M" was as much a part of the Second Brigade, Third Division, as was the Sixth Michigan Cavalry, and CUSTER could not have been marching away, leaving PENNINGTON "still in position." No one claims that he was ordered to go with his cavalry only. General GREGG does not so state. There is then no room for any other conclusion than that CUSTER was to go, with his entire command, including the artillery. PENNINGTON did not go—Colonel RAWLE says he did not. No more did Colonel ALGER or Colonel TOWN. The Sixth and Seventh moved a few rods away, but immediately returned before their position had been occupied by other troops. MCINTOSH was not in position on the right when the battle opened; for, according to the same authority still, after PENNINGTON's reply to the Confederate battery, MCINTOSH had to send back for RANDOL's guns, which were not yet up. By Colonel RAWLE's account, PENNINGTON was playing a queer part

—holding his position at the SPANGLER house without orders and without support, while his own brigade was marching away to Round Top. CUSTER, too, must be assumed to have overlooked the fact that he had a battery in his command, and to have gone off, leaving PENNINGTON to decide for himself whether to remain and fight it out, or to limber to the rear in his own good time, and catch up with the cavalry by galloping across country, when the necessity for so doing should have been determined by his own sweet will.*

CUSTER says that the enemy opened upon him with a battery of six guns at 10 A. M. STUART, on the contrary, claims to have left Gettysburg about noon. It is difficult to reconcile these two statements. A good deal of latitude may be given to the word "about," but it is probable that the one puts the hour too early, while the other does not give it early enough; for it is impossible that CUSTER could have been attacked until after the arrival of some portion of STUART's command in the neighborhood of the battle-field.

As stated before, the official reports are often meagre, if not misleading, and must be reinforced by the memoranda and recollections of participants before the exact truth will be known.

Major CHARLES E. STORRS, who commanded a squadron of the Sixth Michigan, was sent out to the left and front of CUSTER's position soon after the brigade arrived upon the ground. He remained there several hours and was recalled about noon—he is positive it was later than 12 M.—to take position with the companies on the left of the battery. He states that the first shot was not fired till sometime after his recall, and he is sure it was not earlier than 2 o'clock.†

When STUART left Gettysburg, as he says, about noon, he took with him CHAMBLISS' and JENKINS' brigades of cavalry and GRIFFIN's battery. HAMPTON and FITZHUGH LEE were to follow; also, BREATHED's and MCGREGOR's batteries, as soon as the latter had replenished their ammunition chests. STUART moved two and a half miles out on the York turnpike, when he turned to the right by a country road that runs southeasterly past the STALLSMITH farm. (This road intersects the Low Dutch road, about three-fourths of a mile from where the latter crosses the Hanover pike.) Turning off from this road to the right, STUART posted the brigades of JENKINS and CHAMBLISS, and

* Since the delivery of this address I have received a letter from General D. McM. GREGG in which, after mentioning that he has read it, he says: "There is no conflict between your recollection and mine as to the events of that day."—J. H. K.

† Since writing the above a possible solution of this difficulty has come to my mind. It is this: That General CUSTER originally wrote "1 o'clock" and that in copying his report the "1" and the "o" were mistaken for "10" and o'clock added.

GRIFFIN's battery, on the commanding Cress' ridge, beyond RUMMEL's, and more than a mile from the position occupied by CUSTER. This movement was noticed by Major WEBER, who, with his detachment of the Sixth Michigan Cavalry, was stationed in the woods northeast of RUMMEL's, where he could look out upon the open country beyond, and he promptly reported the fact to CUSTER.

The first shot that was fired came from near the edge of the woods beyond RUMMEL's. According to Major McCLELLAN, who was Assistant Adjutant General on STUART's staff, this was from a section of GRIFFIN's battery, and was aimed at random by STUART himself, he not knowing whether there was anything in his front or not. Several shots were fired in this way.

Major McCLELLAN is doubtless right in this, that these shots were fired as feelers; but it is to me inconceivable that STUART should have been totally unaware of the presence of any Federal force in his immediate front; that he should not have known that there was stationed on the opposite ridge a brigade of cavalry and a battery. GREGG had been there the day before, and STUART must at least have suspected, if he did not know, that he would find him there again. It is probable that he fired the shots in the hope of drawing out and developing the force that he knew was there, to ascertain how formidable it might be and how great the obstacle in the way of his further progress towards the rear of the union lines.

The information he sought was promptly furnished.

It was then that CUSTER put PENNINGTON's battery in position; and the three sections of rifled cannon opened with a fire so rapid and accurate that GRIFFIN was speedily silenced and compelled to leave the field.

Then there was a lull. I cannot say how long it lasted, but during its continuance General GREGG arrived and took command in person. About this time, also, it is safe to say, that HAMPTON and FITZHUGH LEE came up and took position on the left of CHAMBLISS and JENKINS. The Confederate line then extended clear across the Federal front, and was screened by the two patches of woods between RUMMEL's and the STALLSMITH farm.

A battalion of the Sixth Michigan Cavalry, of which mine was the leading squadron, was placed in support and on the left of PENNINGTON's battery. This formed, at first, the short line of the L referred to in CUSTER's report; but it was subsequently moved farther to the right and faced in the same general direction as the rest of the line, where it remained until the battle ended. Its duty there was to repel any attempt that might be made to capture the battery.

The ground upon which these squadrons were stationed overlooked the plain, and the slightest demonstration in open ground from either side was immediately discernible. From this vantage ground it was possible to see every phase of the magnificent contest that followed. It was like a spectacle, arranged for us to see. We were in the position of spectators at joust or tournament, where the knights, advancing from their respective sides, charge full tilt upon each other in the middle of the field.

The lull of which I have spoken was like the calm that precedes the storm. The troopers were dismounted, standing "in place rest" in front of their horses, when suddenly there burst upon the air the sound of that terrific cannonading that preceded PICKETT's charge. The earth quaked. The tremendous volume of sound volleyed and rolled across the intervening hills like reverberating thunder in a storm.

It was then between 1 and 2 P. M. (Major STORRS says after 2). It was not long thereafter when General CUSTER directed Colonel ALGER to advance and engage the enemy. The Fifth Michigan, its flanks protected by a portion of the Sixth Michigan on the left, by McINTOSH's brigade on the right, moved briskly forward under its gallant and zealous commander towards the wooded screen, behind which the enemy was known to be concealed. In this movement the right of regiment was swung well forward, the left somewhat "refused," so that Colonel ALGER's line was very nearly at right angles with the left of STUART's position. As the Fifth Michigan advanced from field to field and fence to fence, a line of gray came out from behind the RUMMEL buildings and the woods beyond.

A stubborn and spirited contest ensued. The opposing batteries filled the air with shot and shrieking shell. Amazing marksmanship was shown by PENNINGTON's battery, and such accurate artillery firing was never seen on any other field. ALGER's men, with their eight-shotted carbines, forced their adversaries slowly but surely back, the gray line fighting well, and superior in numbers, but unable to withstand the storm of bullets. It made a final stand behind the strong line of fences in front of RUMMEL's and a few hundred yards out from the foot of the slope whereon STUART's reserves were posted.

While the fight was raging on the plain, WEBER, with his outpost, was driven in. His two companies were added to the four already stationed on the left of PENNINGTON's battery. WEBER, who had been promoted to Major but a few days before, was ordered by Colonel GRAY to assume command of the battalion. As he took his place in front of the leading squadron he said: "I have seen thousands of

rebels over yonder," pointing to the front; "The country over there is full of them." He had observed all of STUART's movements, and it was he who gave CUSTER the first important information as to what the enemy was doing; which information was transmitted to GREGG, and possibly had a determining influence in keeping CUSTER on the field.

WEBER was a born soldier. Although but twenty-two years of age, he had seen much service. A private in the Third Michigan infantry in 1861, he was next battalion adjutant of the Second Michigan Cavalry, served on the staff of General ELLIOTT in the southwest, and came home with ALGER to take a troop in the Sixth Cavalry in 1862. The valuable service performed by him at Gettysburg was fitly recognized by CUSTER in his official report. He was killed ten days later at Falling Waters, while leading his squadron of the Sixth Michigan in a charge which was described by KILPATRICK as the "most gallant ever made." Anticipating a spirited fight, he was eager to have a part in it. "Bob," he said to me a few days before, while marching through Maryland, "I want a chance to make one saber charge." He thought the time had come. His eye flashed and his face flushed as he watched the progress of the fight, fretting and chafing to be held in reserve while the bugle was summoning others to the charge.

But the Fifth Michigan, holding the most advanced position, suffered greatly, HAMPTON having reinforced the Confederate line, Major N. H. FERRY being among the killed. Repeating rifles are not only effective but wasteful weapons as well, and, at last, Colonel ALGER, finding that his ammunition had given out, felt compelled to retire his regiment and seek his horses. Seeing this, the enemy's line sprang forward with a yell. The union line was seen to yield. The puffs of smoke from the muzzles of their guns had almost ceased. It was plain that they were out of ammunition and, for that reason, unable to maintain the contest longer. On from field to field, the line of gray followed in exultant pursuit. BREATHED and MCGREGOR opened with redoubled violence. Shells dropped and exploded among the skirmishers, while thicker and faster they fell around the position of the reserves on the ridge. PENNINGTON replied with astonishing effect, for every shot hit the mark, and the opposing artillerymen were unable to silence a single Union gun. But still they came, until it seemed that nothing could stop their victorious career. "Men, be ready," said WEBER; "we will have to charge that line." But the course of the pursuit took it towards the right, in the direction of RANDOL's battery, where CHESTER was serving out canister with the

same liberal hand displayed by PENNINGTON's lieutenants, CLARK, WOODRUFF and HAMILTON.

Just then a column of mounted men was seen advancing from our right and rear, squadron succeeding squadron, until an entire regiment came into view, with sabers gleaming and colors gaily fluttering in the breeze. It was the Seventh Michigan, commanded by Colonel MANN. GREGG, seeing the necessity for prompt action, had ordered it to charge. As it moved forward and cleared the battery, CUSTER drew his saber, placing himself in front, and shouted, "Come on, you Wolverines!" The Seventh dashed into an open field and rode straight at the dismounted line, which, staggered by the appearance of this new foe, broke to the rear and ran for its reserves. CUSTER led the charge half way across the plain, then turned to the left; but the gallant regiment swept on under its own leaders, riding down and capturing many prisoners.

There was no check to the charge. The squadrons kept on in good form. Every man yelled at the top of his voice until the regiment had gone, probably, 1,000 yards straight toward the Confederate batteries, when, by some error of the guide of the leading squadron, the head of column was deflected to the left, making a quarter turn, and the regiment was hurled headlong against a post and rail fence that ran obliquely in front of the RUMMEL barn. This proved for the moment an impassable barrier. The squadrons coming up successively at a charge, rushed pell mell upon each other and were thrown into a state of indescribable confusion; though the rear companies, without order or orders, formed left and right front into line along the fence and pluckily began firing across it into the faces of the Confederates, who, when they saw the impetuous onset of the Seventh thus abruptly checked, rallied and began to collect in swarms upon the opposite side. Some of the officers leaped from their saddles and called upon the men to assist in making an opening. Among these were Colonel GEORGE G. BRIGGS, then adjutant, and Captain H. N. MOORE. The task was a difficult and hazardous one, the posts and rails being so firmly united that it could be accomplished only by lifting the posts, which were deeply set, and removing several lengths at once. This was finally done, however, though the regiment was exposed, not only to a fire from the force in front, but to a flanking fire from a strong skirmish line along a fence to the right and running nearly at right-angles with the one through which it was trying to pass.

While this was going on, BRIGGS's horse was shot and he found himself on foot, with three Confederate prisoners on his hands. With

these he started to the rear, having no remount. Before he could reach a place of safety the rush of charging squadrons from either side had intercepted his retreat. In the *mêlée* that followed, two of his men ran away; the other undertook the duty of escorting his captor back to the Confederate lines. The experiment cost him his life, but the plucky adjutant, although he did not run away, lived to fight again on many another day.

In the meantime, through the passageway thus effected, the regiment moved forward, the center squadron leading, and resumed the charge. The Confederates once more fell back before it. The charge was continued across a plowed field to the front and right, up to and past RUMMEL's, to a point within 200 or 300 yards of the Confederate battery. There another fence was encountered, the last one in the way of reaching the battery, the guns of which were pouring canister into the charging column as fast as they could fire. Two men, Privates POWERS and INGELEDE, of Captain MOORE's company, leaped this fence and passed several rods beyond. POWERS came back without a scratch, but INGELEDE was severely wounded. These two men were certainly within 200 yards of the enemy's cannon.

But seeing that the enemy to the right had thrown down the fences, and were forming a column for a charge, the companies of the Seventh fell back through the opening in the fence. Captain MOORE, in whose company sixteen horses had been killed, retired slowly, endeavoring to cover the retreat of his dismounted men, but, taking the wrong direction, came to the fence one hundred yards above the opening, just as the enemy's charging column struck him. Glancing over his shoulder, he caught the gleam of a saber thrust from the arm of a sturdy Confederate. He ducked to avoid the blow, but received the point on the back of his head. At the same time a pistol ball crashed through his charger's brain and the horse went down, MOORE's leg under him. An instant later MOORE avenged his steed with the last shot in his revolver, and the Confederate fell dead at his side. Some dismounted men of the Thirteenth Virginia Cavalry took MOORE prisoner and escorted him back to the rear of their battery, from which position, during the excitement that followed, he made his escape.

But now ALGER, who, when his ammunition gave out, hastened to his horses, had succeeded in mounting one battalion, commanded by Major L. S. TROWBRIDGE; and when the Ninth and Thirteenth Virginia struck the flank of the Seventh Michigan, he ordered that officer to charge and meet this new danger. TROWBRIDGE and his men dashed forward with a cheer, and the enemy in their turn were

put to flight. Past the Rummel buildings, through the fields, almost to the fence where MOORE had halted, TROWBRIDGE kept on; but he, too, was obliged to retire before the destructive fire of the Confederate cannon, which did not cease to belch forth destruction upon every detachment of the Union cavalry that approached near enough to threaten them. The Major's horse was killed, but his orderly was close at hand with another and he escaped. When his battalion was retiring, it also was assailed in flank by a mounted charge of the First Virginia Cavalry, which was met and driven back by the other battalion of the Fifth Michigan, led by Colonel ALGER.

Then, as it seemed, the two belligerent forces paused to get their second breath. Up to that time the battle had raged with varying fortune. Victory, that appeared about to perch first on one banner and then on the other, held aloof, as if disdaining to favor either. The odds, indeed, had been rather with the Confederates than against them, for STUART managed to outnumber his adversary at every critical point, though GREGG forced the fighting, putting STUART on his defense and checkmating his plan to fight an offensive battle. But the wily Confederate had kept his two choicest brigades in reserve for the supreme moment, intending then to throw them into the contest and sweep the field with one grand, resistless charge.

All felt that the time for this effort had come, when a body of mounted men began to emerge from the woods and form column to the left as they debouched in the open field. Squadron after squadron, regiment after regiment, orderly as if on parade, came into view, and successively took their places.

Then PENNINGTON opened with all his guns. Six rifled pieces, as fast as they could fire, rained shot and shell into that fated column. The effect was deadly. Great gaps were torn in that mass of mounted men, but the rents were quickly closed. Men and horses were shot away, but others took their places. Then they were ready. Confederate chroniclers tell us there were two brigades—eight regiments, under their own favorite leaders. In the van floated a stand of colors. It was the battle-flag of WADE HAMPTON, who, with FITZHUGH LEE, was leading the assaulting column. In superb form, with sabers glistening, they advanced. The men on foot gave way to let them pass. It was an inspiring and imposing spectacle, that brought a murmur of admiration from the spectators on the opposite ridge. PENNINGTON double-shot his guns with canister, and the head of the column staggered under each murderous discharge. But still it advanced, led on by an imperturbable spirit that no storm of war could cow.

Meantime ALGER, with his Fifth, had drawn aside a little to the left, making ready to spring. McINTOSH's squadrons were in the edge of the opposite woods. The Seventh was sullenly retiring, with faces to the foe. On and on, nearer and nearer, came the assaulting column, charging straight for RANDOL's battery. The storm of canister caused them to waver a little, but that was all. A few moments would bring them among the guns of CHESTER, who, like PENNINGTON's lieutenants, was still firing with frightful regularity as fast as he could load. Then GREGG rode over to the First Michigan and directed TOWN to charge. CUSTER dashed up with similar instructions, and, as TOWN ordered sabers to be drawn, placed himself by his side, in front of the leading squadron.

With ranks well closed, with guidons flying and bugles sounding, the grand old regiment of veterans, led by TOWN and CUSTER, moved forward to meet that host, outnumbering it three to one; first at a trot, then the command to charge rang out, and, with gleaming saber and flashing pistol, TOWN and his heroes were hurled right into the teeth of HAMPTON and FITZHUGH LEE. ALGER, who with the Fifth had been waiting for the right moment, charged in on the right flank of the column as it passed, as some of McINTOSH's squadrons did on its left. One company of the Seventh, under Lieutenant DAN LITTLEFIELD, also joined in the charge.

Then it was steel to steel and Greek met Greek. For minutes—and for minutes that seemed like years—the gray column stood and staggered before the blow; then yielded and fled. ALGER and McINTOSH had pierced its flanks, but TOWN's impetuous charge in front went through it like a wedge, splitting it in twain and scattering the Confederate horsemen in disorderly rout back to the woods whence they came.

During this last melee the brazen lips of the cannon were dumb. It was a fierce hand to hand encounter between the Michigan men and the flower of the Southern cavaliers, led by their favorite commanders, in which the latter were worsted.

STUART retreated to his stronghold, leaving the Union forces in possession of the field.

The rally sounded, the lines were reformed, the wounded cared for, and everything made ready for a renewal of the conflict. But the charge of the First Michigan ended the cavalry fighting on the right at Gettysburg. Military critics have pronounced it the finest charge made during the war.

It was a famous fight and a bloody one. CUSTER's brigade lost one officer and twenty-eight men killed, eleven officers and 112 men

wounded, sixty-seven men missing; total loss, 219. GREGG's division lost one man killed, seven officers and nineteen men wounded, eight men missing; total, thirty-five. In other words, while GREGG's division, two brigades, lost thirty-five, CUSTER's single brigade suffered a loss of 219. These figures apply only to the fight on July 3d.*

I find from the official records that the brigade during the three days, July 1st, 2d and 3d, lost one officer and thirteen men killed, thirteen officers and 134 men wounded, seventy-eight men missing; total, 257. It is difficult, however, to get the full figures, for regimental commanders did not make their reports on the same basis. The above compilation gives the Sixth Michigan only one man missing—a manifest absurdity, unless "missing" is construed to mean those, only, who could be accounted for in no other way. This rule, evidently, all did not follow. Had the Sixth Michigan been given its proper credit for "missing in action," the total loss would be still greater than it appears from the figures given.

The operations of the Michigan Cavalry Brigade in the Gettysburg campaign, properly began at Gettysburg June 28th, and ended at Falling Waters July 14th, or perhaps a little later, when the pursuit of LEE beyond the river ceased. Any sketch that does not cover that entire period, will fall short of doing justice to CUSTER and his command. But, to pursue the subject further at this time, would be to violate the proprieties and abuse the patience of my hearers, if, indeed, I have not done so already. I would like to go on and speak of the pursuit on July 4th; of the midnight battle in the mountains at Monterey; of the fight at Boonesborough, and the bloody affairs at Hagerstown, Williamsport and Falling Waters; to tell the story of the death of WEBER and JEWETT, of ROYCE, BOLZA, ELLIOTT, McELHENNY and SNYDER, and all the noble men who fell with them during those last few eventful days. But this must be done, if at all, on some future occasion. Suffice it to say that during the period named the brigade lost thirty officers killed and wounded, whose names are here given.

KILLED.

First Michigan—Captain W. R. ELLIOTT, Captain C. J. SNYDER, Lieutenant J. S. McELHENNY—3.

Fifth Michigan—Major N. H. FERRY—1.

Sixth Michigan—Major P. A. WEBER, Captain D. G. ROYCE, Lieutenant C. E. BOLZA, Adjutant A. C. JEWETT—4.

* Colonel BROOKE-RAWLE gives an exaggerated estimate of the losses for which there is no verification in the official records. The above figures are taken from the volume of the Rebellion Records, published since this paper was written, an advanced copy of which was kindly furnished me by Colonel H. M. LAZELLE and Major GEO. B. DAVIS, of the War Records Office.—J. H. K.

WOUNDED.

First Michigan—Captain D. W. CLEMMER, Lieutenant E. F. BICKER, Captain A. W. DUGGAN, Captain H. E. HASCALL, Captain W. M. HEAZLETT, Captain G. R. MAXWELL, Lieutenant R. N. VAN ATTER—7.

Fifth Michigan—Colonel R. A. ALGER, Lieutenant Colonel E. GOULD, Lieutenant T. J. DEAN, Lieutenant G. N. DUTCHER—4.

Sixth Michigan—Lieutenant G. W. CRAWFORD, Captain H. E. THOMPSON, Captain J. H. KIDD, Lieutenant E. POTTER, Lieutenant S. SHIPMAN—5.

Seventh Michigan—Lieutenant J. G. BIRNEY, Lieutenant J. L. CARPENTER, Lieutenant E. GRAY, Lieutenant C. GRIFFITH, Captain ALEX. WALKER—5.

It has not been possible for me to obtain a list of the men killed and wounded for that particular period. The record, however, shows that the four regiments during their entire time of service, lost twenty-three officers and 328 men killed; eight officers and 111 men died of wounds; nine officers and 991 men died of disease; a grand total of 1,470 men, who gave up their lives during those four awful years. This does not include those who have died since the war from the effects of wounds and sickness, imprisonment and privations incurred while in the line of duty.

Colonel Fox's history of the casualties in the war shows that there were 260 cavalry regiments in the Union service during the War of the Rebellion. Of all these, the First Michigan lost the largest number of men killed in action, with one exception—the First Maine. In percentage of killed, in proportion to the number of men engaged, the Fifth and Sixth Michigan rank all the rest, not excepting the two first named; and it must be remembered that the Fifth and Sixth went out in 1862, and did their first fighting in the campaign which we have now been considering. They also stood third and fourth respectively, in the number of killed, being ranked in that respect by the First Maine and First Michigan alone.

Comrades: This is a record to be proud of. No man will ever blush to own that he was one of CUSTER's Michigan troopers. Their record is written in history, where it will have a permanent as well as an honorable place. As we stand here to-day, within the shadow of the beautiful monument erected to commemorate the courage and patriotism of the men whose fortitude helped to save the Union right, let us renew our fealty to the cause for which they fought, and resolve that in the years that are left to us we will be loyal to ourselves, true to the manhood that was here put to the proof—true as were those noble dead who gave their lives for the Union.

MOUNTAIN CANNON.

CONSIDERATIONS AFFECTING CONSTRUCTION.

THE name "mountain cannon" does not indicate with sufficient accuracy the purpose for which these useful weapons are designed. They might with equal propriety be called "frontier cannon" or better still "cavalry cannon." Their chief place is with the advance guard—with the cavalry—at the head of the column; therefore cavalymen ought not to be ignorant of the principles governing their construction and use. It is impossible to provide for all the exigencies of service by rules, or by tabulated calculations previously deduced. The study of principles, which are alike applicable to all guns and all cases, will prove the best guide for the intelligent officer at the moment of action.

Theory alone is unfruitful; practice without theory is blind; but both unite to produce the desired ends by the simplest and most direct means.

In mountain fighting, which includes Indian warfare, the cannon is but the means, whereby a certain amount of destructive energy is hurled into the immediate vicinity of an enemy who is detained only by the nature of the ground, who constructs no earthworks and makes no stand for longer than a few minutes during the action. The useful energy is not that of impact, as in larger cannon, but that which is contained in the explosive shell. Were the destructive effects of impact alone intended, we have all that can be desired in the efficient small arms and machine guns of the service, and the transportation of cannon would be useless and inconvenient. Hence it is the energy of the projectile itself that we must use, and its effective distribution which we must seek by all means to secure. This distribution can be improved by—

1. Increasing the mass of the projectile.
2. Increasing the strength of the bursting charge.
3. So shaping and proportioning the interior of the shell that the energy of the bursting charge, will send it into as great a number of dangerous fragments as its size will permit.

Owing to the mobility of the enemy, the useful effect of these guns not infrequently depends upon the result of a single shot. The method of correcting the range by trial shots cannot be followed. To increase the chances of hitting, therefore, and to reduce to a minimum errors in calculating the range, the trajectory must be as flat as possible, and to accomplish this, the initial velocity must be high.

To preserve the flatness throughout long ranges the form of the projectile must be considered. Its length must be great in proportion to its diameter, (three and one-half to four calibres); the cavity containing the bursting charge must be as small in cross-section as the size of the charge will admit; and the charge must be disposed symmetrically with respect to the axis of the projectile.

The attainment of sufficiently high velocity (not below 1,700 feet per second) affects the form and weight of the gun and the kind of powder used. The weight of the gun is limited by the consideration of portability. Within this limit it should be as great as possible. The carrying capacity of pack animals does not ordinarily exceed 300 pounds; taking from this the weight of the pack-saddle and fastenings, which will be near seventy-five pounds, we have a maximum limit of weight for the gun of 225 pounds. The carriage will weigh more than this, but as it can be taken apart in at least three separate pieces for transportation, the limit of weight is fixed by that of the gun alone. The entire weight should be as great as possible, to secure strength and resist recoil. As the gun is habitually fired in the open and upon level ground, the recoil need not be especially considered. With a total weight of 500 pounds for the gun and carriage, three and five-tenths pounds for the projectile, and an initial velocity of 1,700 f. s., the initial velocity of recoil will not exceed 148 feet per second.

The figure of the piece, is limited, in regard to length which must not be so great as to interfere with facility of transportation. A certain counter-preponderance is also necessary to give steadiness to the piece in aiming while using the elevating screw. Within the limit the length should be great as possible to permit the burning of the necessary charge of large grained powder, since in producing a given initial velocity, a short piece must be subjected to a greater strain than a long one. The limits of weight and length being fixed, conditions of powder, pressure and resultant strain will determine the figure of the piece, it being necessary to so proportion the different sections that each will take up and resist, with safety, its proportional part of the strain exerted in producing the maximum initial velocity.

The tougher and stronger the material, the more capable of re-

sisting the strains produced, the greater can be the charge used in a gun of given figure, and the higher the initial velocity attained. Whitworth steel, compressed in a fluid state, is the strongest metal suitable for the purpose yet introduced.

CONDITIONS OF ACCURACY.

Since the number of shots that can be fired is frequently limited to a few, it is necessary that each should be delivered at a proper point. Therefore a high degree of accuracy is necessary, and to secure this several favorable conditions must combine.

The trajectory must be flat to increase the dangerous space, and thus overcome errors in the estimation of distance.

Rapid rotation must be communicated to the projectile. To accomplish this the twist of the rifling must be rapid and yet of such form as to reduce to a minimum the tangential strain upon the band which surrounds the projectile. This must be of copper or mild steel to resist this strain and prevent stripping. The axis of the projectile will thus be held tangent to the trajectory and the air resistance diminished.

The sights must be rigid and carefully constructed. The correction for drift should be included in the calculation of the rear sight, which should combine open and peep sights, so that either could be used to suit the eye of the gunner, yet the graduations of each should be distinct and separate to avoid mistaking one for the other. The base of the sight should possess some accurate means of leveling whereby the bar may be placed and rigidly held in a vertical position, notwithstanding inequalities of the ground. The sight should be easily detachable, and kept when not in use in the leather pouch by the gunner. Upon the socket into which it fits upon the gun, should be constructed a permanent open rear sight for firing point blank on quickly going into action, or for use when the detachable rear sight is lost or not at hand. This sight and the front sight, being permanently attached to the gun, must be strong and heavy to resist deformation by accidents. The correction for wind can be applied by a tangent screw in the base of the sight. Greater accuracy would be secured by placing the front sight near the muzzle of the piece, but in this position it is difficult of construction and in great danger of injury, therefore the right rim base is considered the position which effects the most satisfactory compromise.

Owing to the lightness of the gun, the arm is likely to become deranged at the moment of discharge, by the pull exerted on the frie-

tion primer. The direction of the pull should therefore be horizontal and at right angles to the axis of the bore, the position of the piece being stable, with respect to that line.

BREECH MECHANISM.

The prismatic bolt, operated by a lever at the side as in the HATCH-KISS system, has been found to possess the requisites of simplicity, strength, certainty and ease of operation in such a degree as to be particularly adapted for light cannon. To secure rapidity in coming into action the gun should be drawn by a horse or mule in the column in which it is to act. A single animal and pair of shafts is sufficient, being more easily and rapidly managed than two animals with the pole. The shaft is attached to the end of the trail, and the horse led in the column at the side of a mounted man, consuming no more space laterally than were he led without the gun. The ammunition is carried on pack animals at the rear of the column. Thus the gun is ready for action at a moment's notice, a consideration not unfrequently of the highest importance.

To resist the shock of passing over obstructions in the road, the trail must be proportioned to resist heavy transverse strain. This will be at its maximum at the point of attachment of the shafts. At this point the inertia of the trail and shafts comes into play with a violence, proportional to the vertical distance from the obstruction, and to the velocity of travel.

A principle of high importance is *interchangeability of parts*. A sight, washer or screw which will fit one gun should fit any to which it is applied. Thus broken or damaged parts can be quickly replaced and guns too far damaged to be kept useful themselves, can supply parts to repair those still in service. Each part should be constructed to perform but a single function, and all should be united to effect in the simplest manner the object of the gun—the transformation of the latent energy of the powder into the energy of motion of the projectile.

Concerning the projectile it must be constructed to produce destructive effect at as great distance from the point of explosion as possible. A hollow case made of steel, or strong cast iron of cylinder-ogival pattern enclosing, between itself and the bursting charge, a number of prismatic sections of cast iron arranged symmetrically with respect to the axis, and so shaped as to divide into a definite number of fragments under the pressure of the bursting charge, is a pattern possessing many excellent features. The diameter should be at least two inches, as within this limit the mass and power of the

projectile are so low as to produce little more than a moral effect, and not the real and substantial damage necessary to alarm a fierce or fanatical enemy. That sanguinary effect which makes a gun-shell truly valuable, should be made as great as possible.

The two-pounder Hotchkiss cannon now furnished, is too light a weapon for use with the cavalry. It possesses many of the desirable features named above, which have been found essential in mountain cannon, but is defective in quite as many. It was designed to fill the following requirements of mountain service, and is therefore more strictly an infantry gun :

1. To constitute a system so light that any single part may be transported over all profiles of country either by draught, by packing on animals, or by portage by two men. That is to render the gun accessible to all positions capable of infantry occupation.

2. To reduce the weight of the projectiles in order to permit the transport of a comparatively large amount of ammunition with a minimum of personnel and animals.

3. To compensate for the reduction in mass of projectile by an increase in the initial velocity, and of the density in proportion to its cross-section, in order to insure an effectual power at all fighting ranges.

4. To so simplify the mechanism, exercise and care of the piece that its service may be confided to infantry detachments or volunteer parties organized for mountain warfare, without requiring the aid of technical troops or long instruction.

By increasing the caliber to two inches and the weight of the projectile to three and five-tenths or four pounds, and by correcting the defects found to exist in the two-pounder gun, the cavalry might be placed in possession of a weapon which would be invaluable to it in any action in which it might be fortunate enough to engage.

ALVIN H. SYDENHAM,
Second Lieutenant, Eighth Cavalry.

NEW DRILL REGULATIONS FOR CAVALRY, U. S. ARMY.

ESCORTS OF HONOR.

1097. Escorts of honor are detailed for the purpose of receiving and escorting persons of high rank, civil or military. The troops for this purpose are selected for their soldierly appearance and superior discipline.

The escort forms in line opposite the place where the personage presents himself, the band on the flank of the escort towards which it will march. On the appearance of the personage, he is received with the honors due to his rank. The escort is formed into column of troops, platoons, or fours, and takes up the march, the personage and his staff or retinue taking position in rear of the column. On leaving the escort, line is formed, and the same honors are paid as before.

When the position of the escort is at a considerable distance from the point where the person is to be received, as, for instance, where a court-yard or wharf intervenes, a double line of sentinels is posted from that point to the escort, facing inward; the sentinels successively salute as he passes, and are then relieved and join the escort.

An officer is appointed to attend him, to bear such communications as he may have to make to the commander of the escort.

FUNERAL ESCORT.

1098. The composition and strength of the escort are prescribed in Pars. 474, 475, and 476, A. R. 1889.

The escort is mounted or dismounted at the discretion of the commanding officer.

Dismounted.

1099. The escort is formed opposite the tent or quarters of the deceased; the band on that flank of the escort toward which it is to march.

Upon the appearance of the coffin, the commander commands:

1. *Carry*, 2. *ARMS*, 3. *Present*, 4. *ARMS*; the band plays appropriate

music; arms are then carried, after which the coffin is taken to the flank of the escort opposite, *i. e.*, away from, the band.

The escort is next formed into column of troops, platoons or fours. If the escort be small, it may be marched in line. The procession is formed in the following order: 1. *Music*; 2. *Escort*; 3. *Clergy*; 4. *Coffin and pall-bearers*; 5. *Mourners*; 6. *Members of the former command of the deceased*; 7. *Other officers and enlisted men*; 8. *Distinguished persons*; 9. *Delegations*; 10. *Societies*; 11. *Civilians*. Officers and enlisted men (Nos. 6 and 7), are with side arms, in the order of rank, seniors in front.

At the funeral of a mounted officer or enlisted man, his horse, in mourning caparison, follows the hearse.

The procession being formed, the commander of the escort puts it in march, arms at the right shoulder.

If a commissioned officer, the coffin is borne by six non-commissioned officers; if a non-commissioned officer or private, by six privates.

At the funeral of a general officer, the commander of the escort, in forming column, gives the appropriate commands for the cavalry, light artillery and infantry, which form in column, in the order named, from front to rear. The trumpeters sound the march or flourishes according to the rank of the deceased, whenever arms are presented, after which the band plays appropriate music. When marching to the cemetery, the trumpeters of the artillery and cavalry and field music of the infantry may alternate, in playing, with the band.

Should the entrance to the cemetery prevent the hearse from accompanying the escort till the latter halts at the grave, the column is halted at the entrance long enough to take the coffin from the hearse, when the column is again put in march. The cavalry and artillery, when unable to enter the enclosure, form line facing the column and salute the remains as they pass.

When necessary to escort the remains from the quarters of the deceased to a church, before the funeral service, arms are presented upon receiving the remains at the quarters, and also as they are borne into the church.

The commander of the escort, previous to the funeral, gives the clergyman and pall-bearers all needful directions.

Mounted.

1100. The funeral ceremonies are conducted according to the principles prescribed when dismounted, except that while mounted the saber is drawn and honors are rendered by presenting saber.

When the cavalry are to fire the salute over the grave, it is dismounted, as prescribed to fight on foot, assembled and marched to the grave, where the ceremonies are completed as prescribed when dismounted.

CAVALRY HORSES.

1101. Cavalry officers should make themselves thoroughly acquainted with the natural history and physiology of the horse, and with the effects of different methods of treatment, changes of diet, etc., upon his system and powers of endurance.

They should have a familiar knowledge of the symptoms and methods of treatment of the diseases that are common to horses, what to do in emergencies, and a good knowledge of the effects of the medicines supplied to the troop.

It is the duty of the commanding officer to have his officers instructed in the foregoing requirements. To this end he prescribes such recitations and practical instruction as may be necessary.

1102. Horses when received at the regiment, are assigned to troops according to color, under direction of the commanding officer. They are branded on the near hip with the letter of the troop, the number of the regiment on the same horizontal line; as, D. 7.

Captains make permanent assignment of horses to men. After a horse has been so assigned, his rider will not exchange him or allow him to be used by any other person, without permission of the captain.

Troop commanders, the adjutant and the regimental quartermaster will keep a descriptive book of the animals under their charge, showing the name, sex, age, size, color, marks, brands, and special peculiarities of each; how and when acquired; how long each has been in the service, and his fitness therefor; the particular use to which he is applied and the name of his rider. The date and cause of the death or transfer of every animal will also be recorded.

1103. Taking the useful effects of a man's daily labor as unity, a horse can carry a load on a horizontal plane of from 4.8 to 6.1.

A horse carrying a soldier and his equipments, say two hundred and twenty-five pounds, travels twenty-five miles in a day of eight hours, including ordinary resting stops. A pack animal can carry two hundred to two hundred and forty pounds for the same distance.

Ice of from 4.5 to 6.5 inches thick will bear cavalry marching in column of troopers or twos.

Treatment and Care of Horses.

1104. Horses require gentle treatment. Docile but bold horses are apt to retaliate upon those who abuse them, while persistent kindness often reclaims vicious animals.

A horse must never be kicked or struck upon or near the head with the hand, reins or any instrument whatever.

At least two hours exercise daily is necessary to the health and good condition of horses; they should be marched a few miles when cold weather, muddy ground, etc., prevent drill.

Horses' legs will be often hand-rubbed, particularly after severe exercise, as this removes enlargements and relieves or prevents stiffness.

In mild weather, the sheath will be washed occasionally with warm water and castile soap, and then greased; in cold weather, when necessary, the sheath should be greased.

Horses used freely in snow and slush must not be placed in a warm stable with littered stalls.

Greatest care will be taken in the fitting of the saddles; sore backs are generally occasioned by neglect, and the men must never be allowed to lounge or sit unevenly in their saddles.

Sick Horses.

1105. In the absence of a veterinary surgeon, the horses on sick report are under charge of the stable sergeant, who reports daily to the captain for instructions as to their treatment.

In treating sick horses, it is to be observed that very little medicine is ordinarily required, and that unnecessary doses do a great deal of harm.

If a horse sustain an injury, neglect his feed, refuse to drink, or give any evidence of illness, it will at once be reported.

No horse on sick report will be taken from the stable or picket line for exercise or work, without permission from proper authority.

If there be at any time a suspicious discharge from one or both nostrils of an animal, it must be immediately reported.

To prevent contagion, an animal that shows any symptoms of contagious disease should be isolated at once.

*VETERINARY MEDICINES.**Internally Administered.*

1106. Medicines that act on the stomach and intestines or their contents:

Cathartics; agents that cause purgation: Aloes, calomel, epsom salts, common salt, sulphur, croton, linseed and castor oils, injections and mashies.

Anthelmintics; agents that destroy or expel worms: Nearly all the cathartics, tartarated antimony and sulphide of iron.

Nauseants; agents that induce nausea: Aloes and white hellebore.

Antacids; agents that counteract acidity: Soap and the carbonates of lime, magnesia, soda and potash.

Alteratives; agents that bring about a healthy state of the system: Aloes, calomel, cod-liver oil, sulphur, nitrate of potash.

Cardiacs; agents that invigorate the system by stimulating the stomach: Cayenne pepper, ginger, gentian, caraway seeds.

Demulcents; agents that lubricate or sheathe surfaces: Glycerine, gum arabic, linseed and starch.

Antidotes; agents that counteract the effects of poisons: Depending upon the kind of poison.

Medicines that act upon the brain, nerves and nerve centers:

Excitants; agents that stimulate the brain, nerves and nerve centers and thus increase their energy: Alcohol, ammonia, arnica, strychnia.

Narcotics; agents that are excitants, but whose action is followed by depression of energy: Camphor, henbane, belladonna, opium.

Sedatives; agents that depress nervous power or lower circulation: Digitalis, hydrocyanic acid, tartarated antimony and chloroform.

Antispasmodics; agents that prevent or allay cramps: Alcohol, ethers, oil of turpentine, opium.

Medicines that act upon glands or glandular structures:

Stimulants; agents that act upon the glands generally: Calomel, oxide of mercury, iodine and its compounds.

Diuretics; agents that increase the secretion of urine: Copaiva, nitrate of potash, turpentine, rosin.

Parturients; agents that cause contraction of the womb: Ergot of rye.

Lithontriptics; agents that dissolve calculi: Hydrochloric acid, the fixed alkalies.

Diaphoretics; agents that cause perspiration: Colchicum, tartar emetic, acetate of ammonia, spirits of nitrous ether.

Medicines that act upon the muscular fiber:

Tonics; agents that act gradually and permanently improve digestion and nutrition: Gentian, the sulphates of iron, copper and zinc, cascarilla bark, chamomile flowers.

Astringents; agents that cause contraction of muscular fiber: Alum, catechu, oak bark, tannic acid.

Externally Administered.

1107. Medicines that act upon the skin and external parts by direct application:

Refrigerants; agents that diminish morbid heat of a part: Salt and cold water, solutions of acetate and sub-acetate of lead.

Discutients; agents that dispel enlargements: Compounds of iodine, soap liniment, camphor.

Rubefacients; agents that cause heat or redness of skin without blistering: Liniments of ammonia, tar and turpentine, vinegar.

Vesicants; agents that produce blisters: Cantharides, tartar emetic, croton oil, hot water.

Caustics; agents that decompose the parts to which applied: Carbolic, nitric, sulphuric and hydrochloric acids; chlorides of antimony and zinc, corrosive-sublimate, nitrate of silver, sulphate of copper, hot iron.

Pyogenics; agents that induce suppuration of wounds: Liniment and ointment of turpentine, black hellebore.

Detergents; agents that cleanse wounds and skin, and excite them to healthy action: Acetate of copper, creosote, liniment of sulphate of copper, ointment of chloride of ammonia and nitrate of mercury, sulphur and some of its compounds.

Astringents; agents that diminish discharge from wounds: Alum, sulphate of zinc, acetate of lead.

Antiseptics; agents that destroy putrid condition of wounds: Carbolic acid, salicylic acid, iodoform, charcoal, chloride of zinc, nitrate of potash, permanganate of potash, yeast.

Traumatics; agents that excite healing in wounds: Aloes, myrrh, collodion, oil of tar, resin, solutions of sulphate of copper and zinc.

Emollients; agents that soften and relax parts: Fomentations, lard, olive oil, palm oil, poultices.

General Directions for Shoeing Horses.

1108. In preparing the horse's foot for the shoe, no cutting whatever with the knife is permitted except when necessary to fit the toe clip. In removing surplus growth of that part of the foot which is the *seat of the shoe*, use the cutting pincers and rasp. *Opening the heels* or making a cut into the angle of the wall at the heel must not be allowed. *Flat footed horses* should be treated as the necessity of each case may require. In *forging the shoe to fit the foot*, be careful that the shoe is fitted to and follows the circumference of the foot clear around to the heels; the heels of the shoe should not be extended back straight and outside of the walls at the heel of the horse's

foot, as is frequently done. Care must be used that the shoe be not too small and the outer surface of the wall then rasped down to make the foot suit the shoe. The hot shoe must never be applied to the horse's foot under any circumstances. Make the upper or foot surface of the shoe perfectly flat, so as to give a level bearing. A shoe with a concave ground surface should be used.

In garrison, at the discretion of the colonel or commanding officer, the horses may be left unshod. Shoes will be fitted and kept ready to be put on the horses.

Hygiene of Stables.

1109. Foul air and dampness cause many of the diseases of the horse, hence the importance and economy of spacious, clean, dry and well ventilated stables. Ceilings should be twelve to fifteen feet high, with large ventilators through the roof, and a window or side aperture in each stall, which should be placed well above the horse's eyes. If possible, the buildings should have no upper story or loft.

Double stalls should not be less than four feet six inches by nine feet to each horse, and not less than 1200 cubic feet should be allowed to each horse in the stable.

In stables with a loft, ventilation from the top is always insufficient, and there must be side openings well above the horses, so that the draught will pass over their heads. These openings must never be closed, except on the windward side, to keep out the rain or snow.

If the stable is partitioned off into single stalls, each stall should be at least five feet in width to permit the horse to lie down without difficulty.

A picket line is established in the immediate vicinity of each troop stable, the horses being tied to a manilla or wire rope, or chain passed through the picket posts. There should be shallow trenches behind the horses to carry off rain, the ground on which they stand having just slope enough to let water run into the trenches, or there may be a single drain in the center along the line of the posts. Constant attention must be given to keeping the ground about the picket line in good order.

General Rules for Stable Management.

1110. The following general rules are recommended:

The stable sergeant has immediate charge of the police and sanitary condition of the stable, picket line, etc., and is the custodian of the forage and stable property generally.

The stable is to be kept thoroughly policed, free from smells, and, except portions of stalls that horses can reach, should be well lime-

washed. There must be no accumulation of manure or foul litter inside, nor near the doors or windows without. The feed boxes are washed from time to time, and kept clean. The ground about the picket line is swept daily, and all dung, etc., carried to the manure heap.

Except at night, when the horses are bedded down, no manure or urine is to remain in the stalls; the stable police remove it as it accumulates.

If practicable, all woodwork within reach of the horses, and not protected with sheet iron or other metal, should be painted with thin coal tar to prevent its being gnawed. The same precaution may be followed with regard to troughs, picket posts and picket line. It should be thoroughly dried before putting horses near it.

Smoking in stables, or in their immediate vicinity, is prohibited.

One or more lamps will be hung in each stable to burn during the night.

The horses are stalled according to their positions in the squads; their places at the picket line will be in accordance with the same rule.

Over each horse's stall is placed the name of the horse under that of his rider.

Clay is the best for earthen floors. Gravel or sandy earth is not suitable.

The sloping of the floors of stalls from the manger to the heel post is injurious and uncomfortable for the animal, making him stand in an unnatural position, with the fore legs higher than the hind ones. When the earthen floors are level, the horse will paw a hollow for his fore feet unless he can elevate his hind-quarters by backing out of the stall.

Whenever horses go out of the stable, the windows of their stalls are to be kept open, unless necessary to exclude rain or snow, or when cold draughts effect the animals in contiguous or opposite stalls.

Stable doors are never closed in the daytime, except to keep out wet, or to exclude cold winds that blow on the horses. If the doors be in a single piece, bars are put across the doorway; if divided into upper and lower halves, it will usually be sufficient to open the upper part. At night the entrance to the stables should be secured in such manner as will prevent the escape of animals.

When circumstances permit, horses should be turned loose in a paddock during the daytime, or herded under charge of a guard. When neither is practicable they should, except in very cold, windy weather, or in very hot weather where there is no shade, stand most of the day at the picket line, as they have better air and are less confined, while the stables become drier and more healthful.

In ordinary climates, cavalry stables must be kept as cool as possible. If the horses do not stand directly in the draught, the colder the stable the less will they suffer if called suddenly to take the field. For the same reason, horses should never be blanketed in the stable, except during very cold weather.

PACKING.

Pack Trains.

1111. Active, short-coupled, short-legged, "blocky" mules, weighing from 800 to 1000 pounds, are considered the best for pack animals.

Under favorable conditions each animal can carry a load of about thirty per cent. of his own weight; the load should not be much in excess of 200 pounds, when long or hard marches are to be made.

With fifty packs there should be twelve packers.

Each troop should have four mess boxes, seven-eighth inch lumber, dovetailed 11x18x26 inches, and when packed in pack cover, without lids.

In camp or garrison, logs of wood twenty-six inches long and sacks of corn, double-sacked and lashed, to avoid breaking sacks, having the weight it is intended the mules should carry, are kept on hand for drill purposes.

Each pack should be provided with two coils of three-eighth inch rope, eighteen to twenty-eight feet long, for lashing side-packs.

The pack saddle consists of the *saddle proper*; two *pads*; *crupper*; *corona*; *manta* or *pack cover*; two pieces of canvas, each 34 x 22 inches, stitched together on the long edges; *halter* and *strap*; *canvas cincha*, ten inches wide; *sling rope*, one-half inch, best hand laid manilla whale-line, twenty to thirty-two feet long; and *leather cincha*, with *lash rope*, five-eighth inch whale-line, forty-two feet long. There should be one *blind* for every five packs.

The size of rope is given by the measurement of its diameter.

A "full-rigged" saddle has *sling straps* and *cargo cincha*; the sling and lash ropes are then dispensed with.

While saddling, loading or readjusting the packs, the animals should be blinded. The mules should be trained to stand perfectly quiet while the blind is on; they should never be led or forced to move without first removing the blind.

To Fit the Saddle.

1112. The pack saddle is fitted to the animal in a manner similar to that of the riding saddle; it is so constructed that it can be placed one and one-half inches farther forward than the riding saddle.

If the pads are not square, draw the screws, unlace the pads from the skirts, then square and fit them to the animal by placing the canvas cincha immediately around the animal's girth, the front edge touching the breast bone (cartilages of true ribs), the middle of the cincha being exactly in the middle of the lower edges of the pads; then screw the pads to the saddle bars, keeping the cincha in place till the adjustment is made; then remove the cincha and relace the pads.

Adjust the canvas cincha so as to be long enough to go nearly around the girth of the mule, over to the saddle.

Adjust the crupper, by lengthening or shortening the lace strings that attach it to the saddle, taking care not to make it too tight.

To Saddle.

1113. Place the corona on the mule's back, about two to two and one-half inches in front of where the pommel end of the saddle is to rest; place the folded saddle blanket over the corona; take the saddle by both yokes and place it squarely in position, a little in rear of its proper place; place the crupper under the dock and gently move the saddle forward to position; pass the ring end of the canvas cincha over the saddle from left to right and under the belly; pass the latigo through the ring and tighten the cincha. When cinched, the ring end of the cincha should be above the lower edge of the near pad.

Cargoes.

1114. The rations should be carefully put up in one hundred pound packs lashed solidly and carried on the best pack mules; each pack is plainly marked with its contents and weight.

Salt, sugar, coffee and beans are double-sacked and lashed in one hundred pound packages. Bacon, in one hundred pound package, is packed in from five to eight pounds of clean straw or hay, double sacked and lashed firmly.

The yeast powder cases should be opened and hay or straw stuffed closely around the boxes to prevent shaking, and, with other articles, lashed into one hundred pound packages.

Each cargo is in two side-packs of about one hundred to one hundred and twenty-five pounds each, and should match in size, shape and weight, as nearly as practicable, each side-pack having as nearly as may be, the following proportions: Width, one-half more than the thickness, length nearly one-half more than width; e. g., 12x18x25 inches.

All the salt, sugar, coffee and beans should not be placed in one cargo. Ammunition should be in cargoes.

Pads or cushions of hay 26x44 inches may be placed under the cincha to keep long and rough packs from the animal's hips and shoulders.

To Load Cargo.

1115. The packers should work by threes, designated Nos. 1, 2, and 3.

No. 1 is on the near side, No. 2 on the off side of the mule; when No. 3 works with No. 1, he is nearest the croup; when with No. 2, he is opposite the mule's shoulders.

The mule is placed near to and with its left side next to the cargo by No. 2, who then puts on the blind.

No. 1 on the near side, passes the center of the sling rope over the saddle to the off side, far enough to allow the rope to pass over the off side-pack and come back within his reach, the parts over the rope separated by six to twelve inches. Nos. 2 and 3 take the off side-pack, place it well up on the saddle; No. 2 grasps the loop of the sling rope with his right hand, brings the rope up against the pack and lets the loop drop over his right shoulder, in readiness to pass it over the pack; No. 2 holds the pack in place. No. 3 passes to the near side and with No. 1 takes the near side-pack and places it, flat side to the mule, well up on the saddle, lapping the upper edges well over the upper edge of the off side-pack. No. 1, with his back to the mule's shoulder, takes the end of the front part of the sling rope, passes it underneath and outward through the loop, and pulls it down with the right hand; he now grasps the near end of the sling rope with the left hand, passes it through the loop from the outside, then ties the ends together in a square bow-knot, the packs high up.

No. 1 calls out: *Settle*; No. 1 and No. 2 each grasps his side of the cargo by the lower corners, lifts upward and outward, settling the upper edges well together and balancing the load. If the packs are tied too high they are easily lowered, but if tied too low they must be lifted and placed as in the first trial.

While Nos. 1 and 2 are tying and placing the cargo, No. 3 takes the lash rope, throws the free end to the rear end of the mule, convenient to No. 2, and places the cincha end in front of No. 1. No. 1 grasps the rope with the right hand, three feet from the cincha, and passes the hook end of the cincha under the mule to No. 2, who takes the hook (H, Fig. 1,) in the left hand; No. 1 with the left hand, grasps the rope three feet above the right, raises the rope and lays it between the side-packs from rear to front (P P), pulling it to the front, until a long enough loop (A) is formed to pass over the cargo and fasten in the cincha book (H, Fig. 1). The right hand, back down, holds

the cincha end of the rope, the loop (A) falling outward over the right forearm; the left hand, back up, holding the other part of the rope between the loop and the middle of the packs; No. 1 now throws the loop (A, Fig. 1) over the pack, then lets the part in the left hand drop on the mule's neck, thus forming another loop (A, Fig. 2); No. 2 passes the rope through the hook, pulls the cincha end of the rope till the hook is drawn up so that, when tightened, the hook shall be near the lower edge of the off pad; No. 1 now grasps the rope at G, Fig. 3, and tucks a loop, from rear to front, under the part A A, Fig. 3, over the center of the near side-pack (G, Fig. 4); No. 2 passes the free end of the rope under the part E E, (Fig. 4) and throws it over on the near side of the mule's neck; No. 1 draws the tucked loop forward and forces the rope under the corners and lower edge of the near pad and hauls it taut from above the rear corner; No. 2 grasps the rope at I (Fig. 4), with the left hand, and at K (Fig. 4), with the right, passes the rope under the corners and lower edge of off pad (K, L, Fig. 5), and hauls taut at the front corner, No. 1 taking in the slack at the free end of the rope.

The lash rope is now ready for final tightening.

No. 2 removes the blind, leads the mule forward a few steps, No. 1, in rear, at the same time looking to see if the packs are properly adjusted. The mule is again blinded.

The object of the final tightening is to lash the load firmly to the saddle; pulling all the parts of the lash rope taut, and taking up the slack, commencing at the cincha, and continuing the process from part to part, until the slack is taken up at the free end of the lash-rope.

While No. 2 is pulling the parts taut, No. 1 takes up the slack or steadies the cargo, and vice versa; the pulling is done in such manner as not to shake the cargo out of position.

No. 2 grasps the lash-rope above where it leaves the hook and below the edge of the pad, right hand below left, places the left knee against rear corner of pad; No. 1 grasps with the right hand the same part of the rope where it comes over the pack on the near side, and with the left hand at G Fig. 5, places his right shoulder against the pack to steady it; he then says: *Pull*. No. 2 tightens by steady pulls and, without letting the rope slip back through the hook, gives the slack to No. 1, who takes it up by steady pulls. When No. 2 thinks the cincha is sufficiently drawn, he says: *Enough*. No. 1 holds solid with the right hand, slips the left down to where the rope passes over the front edge of pad, and holds solid; the right hand then grasps the continuation of the rope at rear corner of pad and pulls

taut; then with both hands, placing his right knee against rear corner of pad pulls the rope well home, No. 2 taking up the slack by grasping the rope (I, Fig. 5) where it comes over the rear end of off side-pack, with both hands. No. 1 steps to the front and steadies the pack; No. 2 then pulls taut the parts on his side, taking up the slack; this draws the part of the lash-rope A A, Fig. 5, well back at the middle of the pack; he then with the left hand at the rear corner of pad (K) pulls taut, and holds solid, while with right hand at front corner of pad (I), he takes up slack; he then with both hands at, and placing his knee against the front corner of the pad, pulls well taut, No. 1 taking up the slack on his side and then pulls solid, drawing the part (E E, Fig. 6) of the rope coming out from the hook well forward at the middle of the pack, then carries the free end under the corners and end of pad, draws taut and ties the end fast by a half hitch near cincha end of lash-rope. If the rope should be long enough to reach over the load, after passing under the corners, it is passed over and made fast on the off side by tying around both parts of the lash-rope above the hook, and drawing them well together.

1116. To tighten the lash-rope on the load it is necessary to take up and pass the slack as in the final tightening.

To slacken the rope on the load it is necessary to begin to slacken from the free end and carry the slack by reversing the process of tightening.

When the pack-cover is used it is placed over the cargo before putting on the lash-rope.

When the side packs are of unequal bulk or weight, the larger or heavier should be placed on the near side; it should then lap over the off side-pack until the packs balance.

Top packs, i. e., small packages placed in the middle between the side packs, should be avoided.

When the sling-rope is half hitched into the saddle-yokes, the load is made more secure, but there is great danger of injury to the mule's back.

On the *full-rigged* saddle the canvas cincha is attached to the saddle by the "spider;" the side-packs are laid on the saddle as before, held by the sling-straps and secured by the *cargo cincha*. The lash and sling-rope are then dispensed with; but use of the sling and lash ropes gives greater security to the cargo and greater comfort to the mule.

To Unload Cargo.

1117. Only two men, Nos. 1 and 2 are necessary; they work as when loading.

The mule is placed with head toward the center or where the cargoes are piled. No. 1 puts on the blind; No. 2 unfastens the free end of the lash-rope; then Nos. 1 and 2 slacken the rope; No. 2 with the left hand removes the part under the end and corners of the pads on the off-side, and unhooks the cincha with the right hand; No. 1 removes the part under the end and corners of the pad on the near side, gathers the parts of the rope together on his side with both hands, coiling it, and lays the rope on the ground where he intends to place the cargo, the cincha and free end exposed on the side opposite where the rigging is to be placed. No. 1 unties the sling-rope, casts it loose, takes his side-pack and places it on the lash-rope across the line of cargo; No. 2, at the same time, takes his side-pack and lays it on top of near side-pack and then, holding the sling-rope at the center loop, doubles it and places it on top of load, loop exposed, for convenience when required.

The second load is placed end to end with the first and on the side next to where the rigging is to be placed; the end of lash rope is coiled and placed on top of the last sling rope, and is used for tying the mule when reloading.

The saddle cinchas should be slackened and the mules allowed to cool before removing the saddles.

To Unsaddle.

1118. Unfasten the latigo and throw the end across the top of saddle; fold the cincha with latigo inside and place across top of saddle; push the saddle back, remove crupper from under dock, double it forward, with crupper above cincha on top of saddle, and remove saddle; the saddles are placed in line resting on the ends of pads.

TRUMPET CALLS, ETC.

Warning Calls.

1119. *First call, guard mounting, full dress, overcoats, drill, stable, water and boots and saddles*; they precede the assembly by such interval as may be prescribed by the commanding officer.

1120. *Mess, church and fatigue*, classed as *service calls*, may also be used as warning calls.

First call is the first signal for formation for roll call on foot.

Guard mounting is the first signal for guard mounting.

Boots and saddles is the signal for mounted formations; for mounted guard mounting or mounted drills, it immediately follows the signal *guard mounting or drill*.

The trumpeters assemble at *first call*, *guard mounting*, and *boots and saddles*.

When full dress or overcoats are to be worn, the *full dress or overcoat* call immediately follows *first call*, *guard mounting* or *boots and saddles*.

Formation Calls.

Assembly; the signal for the troops or details to form on their troop parade grounds.

Adjutant's call; the signal for the troops to assemble on the camp or garrison parade ground; it follows the assembly, at such interval as may be prescribed by the commanding officer.

Alarm Calls.

Fire call; the signal for the men to fall in without arms to extinguish fire.

To arms; the signal for the men to fall in under arms, dismounted, on their troop parade grounds as quickly as possible.

To horse; the signal for the men to proceed under arms to their horses, saddle, mount and assemble at a designated place as quickly as possible.

Service Calls.

Taps, *mess*, *sick*, *church*, *recall*, *issue*, *officers*, *captains*, *first sergeants*, *fatigue*, *school* and the *general*.

The *general* is the signal for striking tents and loading wagons, preparatory to marching.

Reveille and *tattoo* precede the assembly for roll call; the *retreat* follows the *assembly*, the interval being only that required for formation and roll call, except when there is parade.

Assembly, *reveille*, *retreat*, *adjutant's call*, *to the standard*, the *flourishes* and the *marches* are sounded by all the trumpeters united; the other calls, as a rule, are sounded by the trumpeter of the guard or orderly trumpeter; he may also sound the assembly when the trumpeters are not united.

The morning gun is fired at the first note of *reveille*; or, if marches are played before *reveille*, it is fired at the commencement of the first march.

The evening gun is fired at the last note of *retreat*.

The drill signals include both the preparatory commands and the commands of execution; the last note is the command of execution.

When a command is given by trumpet, the chiefs of sub-divisions give the proper commands orally.

The memorizing of these signals will be facilitated by observing that all movements to the right are on the ascending chord, that the corresponding movements to the left are corresponding signals on the descending chord; and that changes of gait are all upon the same note.

It will be observed that *Captain's* (or troop commander's) call is the first two bars of *officer's call* with the *attention* added. The signals *platoon right turn*, *platoon left turn*, *troop right turn* and *troop left turn* correspond to the signals *platoon right*, *platoon left*, *troop right* and *troop left*, but have the signal *forward, march* added instead of the signal *march*.

Fours right and *by the right flank* are the same; at this signal, troopers deployed as skirmishers or foragers, move individually by the right flank; organizations or sub-divisions in close order wheel by fours to the right.

The same applies to the signal *fours left* and *by the left flank*.

To the rear corresponds to *faced to the rear*, but has the signal *forward, march*, instead of the signal *march*.

PROFESSIONAL NOTES.

THE BRITISH CAVALRY AT ALDERSHOT, SEPT., 1890.

The following extracts from letters by British officers, published in the *London Times* of January 14 and 27, 1891, will furnish material for profitable thought and comparison in connection with the succeeding letter in regard to the actual field experience, in a rough and broken country, of the Ninth Cavalry during the Sioux campaign of December, 1890, and January, 1891. There may be many reasons for the crippling of the British cavalry through the medium of sore backs, but until after the stuffing has been knocked out of the panels of the saddles in use, it is hardly necessary to inquire further into the cause of the trouble, as it is evident that the principal one will continue to perform its destructive work:

"There are probably several causes for this discreditable state of things, but the principal one is that while the stirrups have been shortened the old hussar saddle which was constructed for the 'balance seat' has been retained."

* * * * *

"Regimental officers are crammed with theory at classes to enable them to pass examinations, but are wanting in practical work, and their minds are too often more absorbed by their amusements. Hunting, steeple-chasing and polo are very good things in their way, but they are overdone. Large studs of hunters, steeple-chasers and polo ponies should be discouraged, and 'cornets,' as the late General WARD-LAW used to say, should be encouraged to hunt their chargers and not aspire to be 'whips' of a pack of hounds advertised by the regiment, thus making regimental work second to sport."

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"Now, the question of how to saddle a cavalry horse so as to enable him to carry his rider, his kit and his weapons, on long and frequent marches, and to maneuver rapidly before the enemy, without being saddle-galled, has been a matter of thought and consideration for centuries, yet, according to your reporter, we appear to be no nearer a solution of the question than we were in the days of CROMWELL.

"My opinion is that the saddler is yet to be born who can make a saddle that will carry a trooper with two stone dead weight in ad-

dition, and also a carbine dangling on one side of it, and yet never gall the horse. And I am therefore further of the opinion that the only solution of the question lies in transferring every pound of dead weight to a luggage horse, and making the trooper mount on a twelve-pound hunting saddle, unencumbered by so much as a shoe pocket, and with his carbine slung on his back. Racing men know that a single pound of dead weight makes the difference between winning and losing a race. May not a stone of dead weight in our cavalry horses make the difference between winning and losing a campaign?"

* * * * *

"To meet the action demanded of cavalry in the present day of far-reaching weapons, I hold that the men must be mounted on twelve-pound saddles, with absolutely nothing attached to them. Carbines must be carried by the men themselves (if they must have carbines), and every sergeant's party of nine must have its pack horse in rear carrying the necessaries the men now carry themselves, and able to follow the squadron or its sections over whatever mountains, streams or plains it may have passed during the day."

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To the Editor of the Times:

TUESDAY, January 27, 1891.

SIR:—We soldiers who are now serving have awaited with earnest expectancy a reply, more or less authoritative, to the drastic criticisms of your military correspondent during the recent cavalry maneuvers, and to the three able articles which have more recently appeared in your columns upon the efficiency of the cavalry.

The personality of your military correspondent is well known to most of us, and well deserved as are many of his criticisms, it is unjust any longer to allow the public to accept the inference of his strictures, and thus lay the blame upon those now officering the cavalry.

Your correspondent has told the public the symptoms of the disease from which our cavalry is suffering—he has not, however, correctly diagnosed that disease, nor has he proposed a remedy.

At Aldershot recently an opportunity of an exceptional kind was given to the leading medical advisers in the persons of Major-General Sir BAKER RUSSELL and Major-General KEITH FRASER, to state fully the real disease and its cure. The opportunity has apparently been lost, and the public are still in the dark as to what is required to place our cavalry in the proper position of efficiency and precedence which it should hold relatively to the other branches of the army.

Your correspondents, from "Sabreur," of September 7th last, to "Troop Horse," of the 12th inst., have signally failed to deal with the real causes of our ailments, and have expended their arguments either upon such side issues as the weak establishments of regiments, the inferiority of our saddlery, and the superiority of the French and German cavalries, or upon totally erroneous causes, such as the theoretical training of our officers, and the failings of the short-service system.

As a commanding officer who has had exceptional opportunities of judging of our disease in peace and war—a disease of long standing—I venture to diagnose the case, and to ascribe the existing condition to the following evils:

1. The deficiency of able and experienced officers.
2. The absence of a sound system of organization.

As regards 1, it is certain that however necessary it is that your infantry officer should be well educated and physically capable, it is still more important that your cavalry officer should have more than average intellectual powers, and that he should possess in a high degree those natural military qualities which are best evidenced by prowess in the cricket field and by a foremost place in a run with hounds. The responsibility devolving upon a subordinate infantry officer is small indeed compared to the individual responsibility vested in a troop leader, or in an officer commanding a patrol on service. The safety of an army may at any moment depend upon the ready knowledge and practical ability of a young cavalry officer, while the lives of his men are at all times in his hands. Yet it is a fact that the cavalry are forced to take as officers young gentlemen who are educationally rejected for the infantry. To such of your readers as are skeptical I would point to the list of successful candidates at the recent examination, where it will be seen that more than half of those who have qualified for cavalry are many places below the lowest of the successful infantry competitors.

It is, alas, notorious that there is a lack of keenness among subordinate officers of the cavalry generally, and it is exceptional to find officers who look upon the service as a profession, and study it accordingly. The large majority look upon soldiering as a means of amusing themselves, of passing a few years of their life in the full and unrestricted enjoyment of all those amusements which make existence attractive to young Englishmen—viz., in hunting, racing, fishing and shooting.

It comes, then, that those who eventually, either from circumstances or inclination, remain on to become field officers or commanding officers, lack for the most part that professional knowledge and professional enthusiasm without which all professions must be and are lifeless.

It is not in the power of any human being to compensate in middle age for the idleness of youth; and the profession of arms, of the mounted branch in particular, is no exception.

As regards 2, I cannot do better than quote—and I do not shrink from doing so—the speech of a distinguished infantry officer at the discussion which followed Major JAMES's lecture, recently delivered at Aldershot, upon "The Development of Modern Cavalry Action." This officer is reported by the *Broad Arrow* to have spoken as follows:

"The whole fabric (mounted infantry) which we have reared during the last ten years depends upon the following four great principles, which we consider, from experience in the field, to be the foundation-stones of efficiency for mounted troops in war: (1) The

company or squadron system, viz., that the administrative shall be also the tactical unit and that it shall be independent; (2) the squad system—that the company shall be permanently divided into four squads, each under an officer, and shall work together always as such; (3) permanent sections of men and horses—that the same men and horses shall be together in barracks or at the bivouac who work together at drill or fight side by side on the field of battle. This we consider to be the first principle for insuring fire discipline, or that mutual reliance upon one another which begets steadiness in moments of danger; (4) the absence of the adjutant and riding master system—we consider that the officer who leads must be he who instructs, whether it be in drill, in riding, or in discipline."

Sir BAKER RUSSELL, following this speaker, said that he fully endorsed all his ideas. General KEITH FRASER, if he has been correctly reported, went further, and stated that it was for this very organization that the whole cavalry service had been striving during the last twenty-six years. The lecturer himself, in a letter to the *Broad Arrow* of the 17th, accepts in the most complete manner the organization advocated.

I may say further that all cavalry officers now serving, of thought and experience, accept the four principles which this infantry officer laid down with such emphasis and precision in the words quoted, and it is to the establishment of this system that we must look for the real efficiency of the cavalry.

I have now dealt with the causes of the disease, and I will proceed to advise the remedy.

As regards 1, it is first of all essential to induce the best officers to enter the cavalry service, and to do so it will be necessary to bring the expenses of serving within the means of the great majority of those young gentlemen who officer the army.

This can be done by the following means: (a) That government should give to each young officer upon joining two remounts, suitable as first and second chargers; (b) that each officer should receive £25 per annum, or, if he so elect, a remount free every two years; (c) that regimental drags should be abolished; (d) that inter-regimental polo should be discontinued (as is about to be done in India); (e) that rigid economy in the mess should be enforced; and (f) that a suitable working dress, devoid of gold lace, should be instituted, and the present amount of ridiculous and expensive uniform be curtailed.

Upon such a system the existing plan of admitting as cavalry officers those young gentlemen who have more money and less brains than their comrades in the infantry could be at once abolished. Unsuitable cavalry officers could, moreover, be transferred to infantry, and suitable infantry officers could in like manner be transferred to cavalry.

This method would soon give to the cavalry a class of professional officers of a very high order.

As regards 2, the remedy is in the hands of the authorities to enforce, and the sooner the squadron system is introduced the better will all genuine cavalry officers be pleased.

* A debt of gratitude is due to your military correspondent for bringing the cavalry cause before the public.

Is it too much to hope that through the powerful advocacy of *The Times* we may not only see the reforms which have been indicated carried out, but that we may further see the following all important changes similarly effected, viz: (1) the concentration of cavalry regiments in quarters where it is possible to carry out the elementary squadron and regimental training efficiently; (2) the annual concentration of cavalry regiments in brigades and divisions at places where their further instructions can be effectively conducted?

I have the honor to remain, Sir, your obedient servant,

A COMMANDING OFFICER.

REMARKS ON PRINCE HOHENLOHE'S SIXTEENTH LETTER ON CAVALRY.

In glancing over the valuable sixteenth letter, as translated by Colonel HUGHES, and published in the Journal of the United States Cavalry Association of December, 1890, it has occurred to me while sitting in my tent, waiting for the mail, to put down a few points in a random way of what came under my eye, during the Sioux episode, and which may be of value to others. This is brought to my mind by the following extract from the above referred to letter, viz.: "If the horses are not permitted to lose the high state of training in which they are at the end of June, by want of exercise during the month of July. For this reason the horses should be *violently exercised* once or twice a week *in addition* to their ordinary drill work." When I joined the command of the Ninth Cavalry at Pine Ridge, November, 1890, I made up my mind, that if any work was to be required of the cavalry, it would be hard, requiring rapid movements, and that men, horses and pack mules must be hardened, not only for work but to endure all kinds of weather. Drills were had daily; nothing interfered; dust, wind and cold were ignored; so much so, that I am told some officers appealed to the camp surgeon to see if he would not recommend, on hygienic grounds, some diminution of them. Our drills covered some twelve miles at a walk, trot and gallop, the middle gait being that used most generally. The "charge" was made two or three times, but after having killed one horse, and injured several men, I was afraid to keep it up, for fear I should evoke the wrath of the "powers that be." At any rate our drill was violent, and the horses became tough as knots, and our pack mules and men equally so.

December 24th, we made a fifty mile march, the packs keeping up with us, and the horses and men coming in fresh at the end of it. To obtain water and wood for breakfast Christmas day, we rode nine miles. Our gait was the walk and trot, making six miles an hour on the average. From 8 A. M. December 29th, to 4 P. M. December 30th, we covered 102 miles, marching about twenty-four hours out of the thirty-two, leaving for rest but six hours between 4 P. M. and 10 P. M.

December 29th, and two hours between 10 A. M. and noon, December 30th. Our gait was the same as above. *There was not a sore-backed horse*, but one horse dropped dead after our return from the Mission, or at the end of the march. December 31st we rested, and on January 1st we were again on the march, the horses in good condition. Men and horses were tired on the 30th, and at the picket line the horses were glad to lie down. Had not these hardening drills, requiring violent and constant exercise been had, these marches could never have been made without loss of horses, and producing exhausted men. This violent exercise is equally necessary for the men. They, as well as the horses, have to be hardened. A lounging, tired man in the saddle makes a tired horse, and as General MERRITT once said in writing of a march, "Better put such men in a wagon, etc."

When we commenced our trotting drills, one officer had to be excused at first, but he gradually got hardened and made our other marches as well as the youngest. Some of our cavalry officers are afraid horses will be injured by rapid gaits; *never*, when such are employed with judgment, and the horse like the athlete, is gradually trained to accomplish the required results. His power and endurance, when properly trained, are limited only by that of his rider, who should also be in the best of physical condition and training. We often have troops starting out on campaigns in bad condition as to hardness, and it would be a good rule to have once or twice a week, a march of twenty miles, at the walk and trot. This would bring better results than a month of dress parades. This hardening process conducted by means of practice marches, should be required of infantry as well.

Now a word for pack mules. Their drill and the management of their cargoes, etc., are entirely neglected. A complete pack train is a necessary adjunct to an efficient cavalry force. Mules should be kept with each troop, and regular drills and marches required. No cavalry can pursue Indians with wagons, hence the successful troops are those with the best pack trains, not raised at the moment, but the result of careful drill and marching for months.

Now as to horse-shoeing. In the winter marching, those without shoes could go any place without slipping or balling. Those with shoes strained themselves, balled, and slipped, the latter even with calkins—a most dangerous kind of shoeing for horses at the picket line. The order for shoeing should not be ironclad. Some discretion should be left to the officer in command.

I might go on referring to the Buffington sight, its want of adaptability for rough service, the weakness of parts of the HOTCHKISS gun, manner of carrying it, etc., but I would be touching on grounds non-cavalry, so I will forbear, hoping my hastily written lines may take root, and be of benefit.

GUY V. HENRY,
Major Ninth Cavalry, Brevet-Colonel U. S. Army.

AN EASILY CONSTRUCTED CANVAS BOAT.

In the December JOURNAL is an article on the "Crossing of the Bystritza River." In discussing the article Colonel SANFORD describes a serviceable raft by which he ferried the impedimenta of his command across the Malheur River in 1873. I would like to show how, with the same material that was at the command of Colonel SANFORD, a very serviceable *boat* could have been made.

In the summer of 1880 I was camped with my troop on the banks of the Uncompahgre River in Colorado; the river was high, we were cut off from the infantry camp on the other side, and I set to work to make a boat by which I might cross. Plenty of young cottonwood trees were growing about, and there was also a thicket of willows. For canvas I had a wagon sheet which I had formerly used as a tent.

We commenced by tracing on the ground the outline of a boat eleven feet long and four feet wide, sharp at both ends; at each end a strut stake was driven; along each side seven stakes were driven opposite to each other. I then cut a number of limber cottonwood poles and branches; two of the largest were lashed firmly to the stakes at the bow and stern, and were then bent over and lashed together in the middle forming the keel. Smaller poles were lashed to the stakes driven along the sides, and then each pair was bent over and lashed together, and also lashed to the keel, passing below the keel. These formed the ribs of the boat. The gunwale was formed by branches which were bound to each rib and to the ends of the keel, the gunwale passing along the side of the boat just above the tops of the stakes.

Thus the framework of a boat lying bottom up had been constructed. To strengthen it willows were cut which were woven in and out among the ribs and keel. The lashings that held the boat to the stakes were cut; the basket work boat was found to be remarkably stiff except that the ends of the keel and of the principal ribs were inclined to spring outwards. This was effectually remedied by tying them down to the center of the keel by lariat ropes. The protruding ends of the keel and ribs were then sawed off and the basket boat covered with canvas.

This boat, eleven feet long and four feet wide, weighed about eighty pounds. With six men on board it drew but three or four inches of water and had but little tendency to upset. It was built by four men in from two to three hours. It was easily managed and leaked but little.

JAMES PARKER,
Captain, Fourth Cavalry.

MEMORANDUM OF THE VIEWS OF THE DIVISION COMMANDER IN REGARD TO OPERATIONS IN THE FIELD AGAINST HOSTILES.

EXTRACT.

The cavalry (depended upon to do the principal work in pursuit and encounter) should be armed with carbines and revolvers, but not sabers; at least fifty rounds of ammunition should be available at all times; three six-mule wagons per troop; ten pack animals and two riding animals with all supplies, including medical supplies, necessary ambulances, etc.

Pack trains, when moving with wagons, should only carry about one hundred pounds of grain, or what grain the animals require to keep them in full strength and their backs in proper condition to enable them to be in perfect order for forced marches over broken country that cannot be traveled with wagons.

In addition to the above allowance of transportation, pack transportation can be improvised by using Indian scouts with their pack animals, or hire pack transportation if available.

The troops should be supplied with sufficient heavy clothing for the region; Sibley tents when moving with wagons, shelter tents when moving with packs. Fur clothing can be provided, or canvas-covered clothing; also canvas-covered blankets for animals.

As many light steel Hotchkiss guns, with one hundred rounds of ammunition per gun, as possible, or as may be required, should accompany the cavalry.

The infantry can be used in guarding trains, protecting supplies, and, if necessary, in such a way as to give as much protection as possible to settlers and settlements requiring their protection.

Complete and accurate maps, signal appliances, etc., should be provided each command.

Indians scouts can be used as auxiliaries, scouts, trailers, orderlies, messengers, detailed to assist trains, detailed in Quartermaster's Department as assistant packers for the pack train, and in any way that they can be made useful.

HEADQUARTERS DIVISION OF THE MISSOURI,
ASST. ADJT. GENERAL'S OFFICE,
CHICAGO, ILL., November 24, 1890.

BOOK NOTICES AND EXCHANGES.

FIELD SERVICE OF THE SQUADRON. Vienna, 1891. Price, 60 kr.

The following translation of the introduction and list of subjects will show the scope of the work:

INTRODUCTION.

The drill regulations for the Royal and Imperial Cavalry require that every means be taken to arouse a proper spirit among the cavalry in the course of instruction, and defines the ideas desired as those of uprightness, love of the horse, courage, self-reliance and resolution.

This last quality has, whenever highly developed, led cavalry into great successes, which are never obtained when this incentive is lacking. The cavalryman, whether of high or low degree, must be animated by the desire for action; he must bear in his breast an invincible impulse to action; inactivity must be hateful to him, and should awaken in him the fear that he may be neglecting the opportunity for glorious feats.

But circumstances or military subordination may compel him to inactivity; in such case he can at least ponder and weigh in his mind such contingencies as may one day afford him the desired opportunity for action; he must be accustomed to be in a state of continuous and tireless mental activity.

Only the cavalryman who is animated with this spirit of industry can perform what is desired of him, while on the other hand, if only too easily forced from one embarrassment to another and deprived of the power of unfettered decision, not even heroic courage will suffice to ward off his impending fate.

This tireless mental industry, this spirit of enterprise and progress is to be awakened and strengthened; and instruction in field service gives the best opportunity for it. But field service must be taught with indomitable industry and must be a labor of love, if monotony and a precise and uniform manner of performing it are not to seriously compromise all good results.

Success will not be infallibly attained by a great number of successive exercises or by the accomplishment of a set programme, but by the kind of exercises and the manner of performing them.

To arouse interest in the subject, to promote instruction in what may be styled its intellectual part, industry, skill and vast patience will be requisite; but as soon as it becomes a question of certain

forms, regulation definitions or traditional customs, in short, when the formal side becomes prominent, then will energy, earnestness and consistency be still more necessary, for nothing is learned by playing at these things; they must be drilled into the men.

Instruction in field service is, and will always be, a difficult task, in whatever way it may be regarded, and he who would set about it in a rational way must become familiar with all its details, bury himself in them, and pursue the subject with energy and industry. And it must be granted that, in this duty, no one can replace the squadron commander, whose time is already absorbed by a multiplicity of duties. He must arouse in all his subordinates a recognition of the high importance of instruction in the details of field service, especially among the officers, so as to increase their interest in it and to break down the idea that a good rider and horse trainer is necessarily a good cavalryman, as such a man may indeed know how to sharpen the weapon, but not to use it. Means and end are not the same.

LIST OF SUBJECTS.

1. Principles, programme of instruction.
2. Instruction of the men.
3. Instruction of young non-commissioned officers.
4. Instruction of old non-commissioned officers.
 - (a). Reconnoitering.
 - (b). Patrolling.
5. Field exercises of the squadron.
 - (a). Practice in tactical problems of ground.
 - (b). Reconnoitering and patrolling.
 - (c). Marching.

DUFFIÉ AND THE MONUMENT TO HIS MEMORY. By George N. Bliss, late Captain Company "C," First Rhode Island Cavalry. Providence. 1890.

A loyal and apparently well deserved tribute, to the memory of a gallant and justly distinguished cavalry officer who merited and received the esteem of the officers and soldiers of one of the best volunteer cavalry regiments, the First Rhode Island, of which Duffié was made the Colonel July 8, 1862, organized during our great war.

By many persons, General Duffié, because he was a foreigner, has been unjustly classed with a certain kind of foreign military adventurers who secured commissions in our volunteer service, only to bring disgrace and discredit upon the uniforms they were permitted to wear.

That he was a soldier of experience and high standing before he came to the United States will be clearly shown by the following extracts from the story of his career in Europe and Africa: He was one of the two hundred and twenty admitted, out of the eleven thousand and candidates examined for admission to St. Cyr, from which he graduated, and at once went into service as a lieutenant of the French army, in Algiers; and later in Senegal, in Africa, where he was wounded in action. "He went to the Crimea and was in action in

the battle of the Alma, Inkerman, Balaklava, Chernaya, Gangel and Sevastopol; was several times wounded, and was promoted first lieutenant Fifth Hussar regiment. At the close of the Russian war in 1856, he returned to France and served with his regiment until the war with Austria again called him into action and a severe wound compelled him to leave the field for the hospital; but not until he had borne his part in the battles of Palestro, Magenta and Solferino. During his service in Africa and Europe, Duffié received eight wounds and four decorations: the Cross of the Legion of Honor from his own country; the Sardinian Cross from the King of Sardinia, who decorated him with his own hand as he lay wounded; the Turkish Cross from the Sultan; and the English Cross from Victoria."

Upon the recommendation of General Hooker, Duffié was made a brigadier-general of volunteers, June 23, 1863, as a reward for his valuable services in the campaign of that year.

Of Duffié's battles with the peculiarities of the English language, and his unsuccessful attempts to master them so as to always make his wishes and orders comprehended and obeyed, some very striking examples are given in this little book, which is well worthy of perusal by any one interested in cavalry literature. *N. C. C. Carr.*

BARTLETT'S MILITARY MUSICAL.

The JOURNAL is in receipt of a communication from Mr. H. T. Bartlett, Chief Bugler at General Sheridan's headquarters during the war, containing an account of several entertainments given in the east, introducing bugle calls in connection with recitations by elocutionists. A poem of six stanzas, entitled "Taps," was recited by an elocutionist, and at different places in the recitation, portions of "Taps" were sounded by the bugler, Mr. Bartlett, who was concealed from the audience. By an artistic timing of the different bars of the bugle call to appropriate places in the poem, a very beautiful effect is produced. To give the effect of distance to the call a "mute" is used in the bugle. This sounding of the call, combined with the eloquent delivery of a finished elocutionist, must have furnished an artistic and enjoyable number in the concert at which it was given.

Another number at the same concert was the account (read by an elocutionist) of the "Cavalryman's Day," from reveille until the close of a successful "charge." At appropriate places in the reading the corresponding calls were sounded on the bugle by Mr. Bartlett, followed in their proper order, by "stables," "boots and saddles," "to horse," "forward," and "water call," and at the supposed near approach to the enemy, the "trot," "gallop," and "charge" were sounded. The description, with the accompanying calls, must have been very realistic. An adaptation of the "Salute to the Color" was also enclosed by Mr. Bartlett, as rendered by him at a presentation of colors to U. S. Grant Post, No. 327, Department of New York, G. A. R. The thanks of the Association are due to Mr. Bartlett for his kind remembrance of his cavalry comrades, and for the clear and concise description of the way these interesting features in a musical entertainment should be arranged in order to be successful. H.

MICHIGAN AT GETTYSBURG; AN ACCOUNT OF THE PROCEEDINGS INCIDENT TO THE DEDICATION OF MONUMENTS TO MICHIGAN SOLDIERS UPON THE BATTLE-FIELD OF GETTYSBURG. By General Luther S. Trowbridge and Colonel Fred. E. Farnsworth.

A beautiful memorial volume dedicated to the Michigan troops, cavalry, artillery and infantry, whose records in the war were equalled by few and excelled by none. Under the auspices of the State and with the substantial assistance of twenty thousand dollars appropriated by the legislature, the different places occupied by Michigan troops on the battle-field of Gettysburg have been marked by appropriate monuments, which will always, in future years, attract the attention of visitors to the scene of one of the greatest struggles recorded in the annals of the human race. The volume, compiled under the supervision of General L. S. Trowbridge and Colonel F. E. Farnsworth, contains a great deal of interesting matter in connection with the dedication of the monuments, and well executed portraits of many of the Michigan officers, who have, apparently, preserved their good looks and military bearing in spite of advancing years, together with very artistic illustrations of the various monuments erected upon the battle-field.

The governors who in war supported their troops to the fullest extent of their official power and social influence, and in peace enthusiastically forwarded every worthy project for commemorating the valor and patriotism of the Michigan volunteers, have received the recognition they have so well deserved. *b. b. b. m.*

THE SOLDIER'S FIRST AID HAND-BOOK. By William D. Dietz, Captain and Assistant Surgeon, U. S. Army. New York. John Wiley & Sons, 1891. Price, \$2.10.

This timely volume of ninety-three pages, treats of the first aid that should be given in case of accident—a kind of “what to do until the doctor comes;” and consists, in the main, of a series of lectures delivered to the members of the Hospital Corps and Company Bearers. It is divided into three parts; the human body; first aid on the battle field, and conduct of the bearers in ordinary accidents and emergencies. Technicalities have been avoided; and, if the aids herein described were known and followed, they would be the means of relieving much suffering and of saving many lives. This is just the kind of knowledge that should be possessed by all connected with the army, as many of us may be called upon to act in similar emergencies in the absence of the surgeon.

The directions for controlling hemorrhage on the field are simple and complete, and if carried out might be the means of preventing much loss of life. The instructions for the bearers on reaching a wounded comrade, and the manner of carrying him from the field, are given in such plain language that they can be easily understood by all. The value of the book is increased by a very full index.

OUTPOSTS, ADVANCE AND REAR GUARDS, AND RECONNAISSANCE.

In the compilation of this little pamphlet of thirty-eight pages, under the direction of the Regimental Commander of the Fifth Cavalry, for use in instructing the non-commissioned officers of that regiment, in the duties indicated by its title, a great benefit has been conferred upon the service. It is based upon the well known works of Shaw, Clery, Trench, Baden Powell and Hale, and furnishes, in a very compact and convenient form, a manual for instruction in the important duties of minor tactics, and reconnaissance of country. The method of arrangement adopted is that of questions and answers, in the selection of which, very good judgment is apparent, as the book, while not overloaded with unimportant matter, includes everything essential to the proper comprehension of the subjects treated, so far as they come within the scope of the duties of the non-commissioned officers. It is provided with seven excellent plates, which materially increase its value.

b. b. b. Carr.

THE PRESENT UNIFORMS OF THE ROUMANIAN ARMY. By Moritz Ruhl. Leipzig. Price, 2 marks, 50 pf.

Under the above title has been received, through the courtesy of Colonel A. L. Bresler, Superintendent Ohio Military Academy, Portsmouth, Ohio, a very handsome publication, containing, in addition to a statement of the organization of the army, beautifully executed lithographic plates in colors and gold, of every article of dress, insignia of rank, decoration, etc., used in the Roumanian army of to-day. All the details and specifications are so clearly shown that the articles could be easily made from them by any one engaged in the supplying of military goods to the army.

Mr. Ruhl, the publisher of the present work, will soon issue one of a similar character in regard to the United States army, which will doubtless prove to be an interesting addition to the book collections of our army officers.

b. b. b. Carr.

PRACTICAL GUIDE FOR THE CONSTRUCTION OF FIELD INTRENCHMENTS.

Translated by direction of Colonel E. F. Townsend, Twelfth Infantry, Commandant of the U. S. Infantry and Cavalry School. By Lieutenant R. H. Wilson, Eighth Infantry. 1891.

A pamphlet of eleven pages illustrated by five blue prints, deemed to possess sufficient novelty and value to justify its adoption for use as a text book in the United States Infantry and Cavalry School at Fort Leavenworth, Kansas. The name of the translator is a sufficient guarantee for the faithfulness, accuracy and clearness with which the translation has been made. Even a casual reading will show that the work could not possibly have been committed to better hands.

b. b. b. Carr.

KANSAS HISTORICAL COLLECTION. Volume IV. 1888-1890.

A clearly printed and substantially bound volume of eight hundred and nineteen pages, and forms one of a series published by the Kansas State Historical Society, which is charged by the State

with the "duty of forming a library of historical and other materials for the use of the people." In the volume before us may be found many official reports made by army officers in reference to affairs as they existed in what is now known as Kansas, during the decidedly exciting and unpleasant complications of 1856. *b. b. b. b. b.*

MILITAER WOCHENBLATT. Series of 1891.

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REVIEW OF REVIEWS.

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THE UNITED SERVICE. Hamersly & Co., Philadelphia, Pa. January, February and March, 1891.

How We Elected the Mayor of Oglethorpe. Wellington. Some Changes Effected in the French Army by the Revolution of 1789. The Harriet Lane. History of the Mormon Rebellion, 1856-1857. John Nelson's Reformation. Modern Armor. Pulaski and Charleston. Moltke. Under the Southern Cross. History of the Mormon Rebellion, 1856-1857, (continued). Perry, the King's Secretary. Knots and Miles. Chronicles of Carter Barracks. The Influences of Small Caliber Magazine Rifles and Smokeless Powder on Tactics. A Double Winner. Moltke. History of the United States Marine Corps. History of the Mormon Rebellion, 1856-1857. John Nelson's Reformation. Under the Southern Cross. The Evacuation of New Madrid by the Federals.

PROCEEDINGS OF THE UNITED STATES NAVAL INSTITUTE.

Vol. XVI, No. 5, 1890: Introduction. The Annapolis Armor Test. Report of the Board on the Competitive Trial of Armor Plates, with Thirty-two Full Page Plates from Photographs, Illustrating Targets and Effect of Projectiles upon them. Vol. XVII, No. 1, 1891: Prize Essay for 1891. The Enlistment. Training and Organization of Crews for Our New Ships. Note on Experimental Ammunition Cart, Constructed for the Ordnance Department. Seacci's Ballistic Equations on the Angle of Elevation, in Order that the Trajectory in Air Shall Pass Through a Given Point. Target Practice, with Discussion. Electrical Counter and Shaft Revolution and Direction Indicator. Appendix, Vol. XVI, 1891, Containing List of Members, Constitution and By-Laws, Etc.

OUTING. January, February and March, 1891.

How England Trains Her Redcoats. The St. Bernard Dog. Cycling in Mid Atlantic. Fish Spearing on the Otonabee. The Sports of an Irish Fair. Winter in North Carolina. The Pink Sun. Across the Great Divide. *Outing* has added to its ever widening range of interesting articles, "Military Exercises" as bearing on physical development. In some of the recent issues we have had the "Southern Cavalry Tilts," "The Soldier as a Marksman" and "The Soldier Cyclists." *Outing* for March tells "How England Trains Her Redcoats," a paper as indispensable to the National Guardsman as his book on tactics. The article is richly illustrated by special *Outing* artists sent to England, and by the well known English master of pencil and brush, Seymour.

PENNSYLVANIA MAGAZINE OF HISTORY AND BIOGRAPHY, No. 1, Vol. XV. April, 1891.

The Life and Times of John Dickinson, 1732-1808. Exchange of Major-General Charles Lee, from MSS. of Elias Boudinot. Unpublished Letters of Benjamin Franklin. Itinerary of General Washington from June 15, 1775 to December 23, 1783. The University of Pennsylvania in its Relations to the State of Pennsylvania. Extracts from the Journal of William Jennison, jr., Lieutenant of Marines in the Continental Navy. Pennsylvania Weather Records, 1644-1835.

JOURNAL OF THE MILITARY SERVICE INSTITUTION. No. 49. March, 1891.

Our Experience in Artillery Administration. The Power of the Senate. Musketry. Military Gymnastics. On the Increase of the Number of Cadets. The "Oath of Enlistment" in Germany. The Funeral Ceremonies of Washington. Reprints and Translations. Military Notes. Historical Sketches of the United States Army: The Eleventh Infantry.

PROCEEDINGS OF THE ROYAL ARTILLERY INSTITUTION. January and February, 1891.

Relation of the Battle of Dettingen. Changes in the Royal Artillery. The Origin of our Present Drill Book. Lecture upon Experiences at Okehampton in 1890. Homing Pigeons. Ranging a Battery. Development of the Bracket System.

THE IOWA HISTORICAL REVIEW. January, 1891.

Colonel William Patterson. Bushwhacking in Missouri. Judge Miller's Appointment to the Supreme Court. The Spirit Lake Expedition of 1857. Governor Kirkwood's First Meeting with President Lincoln. Letters of a War Governor.

JOURNAL OF THE UNITED SERVICE INSTITUTION OF INDIA. No. 84.

Army Organization. The Military Training of Junior Regimental Officers. Targets and Marking. Regulations for the Self-entrenchment of Infantry. The New German Repeating Rifle.

UNITED SERVICE INSTITUTION OF NEW SOUTH WALES. 1890. Vol. II.

The Defense of a Protected Harbor. Harbor Defense by Guard Boats. Round About Apia. The Australian Soldier.

SPIRIT OF THE SOUTH. Weekly. New Orleans, La.

THE INVENTIVE AGE. Weekly. Washington, D. C.

HUDSON'S ARMY AND NAVY LIST. March, 1891.

PRINTER'S INK. Weekly. New York.

LETTER FROM AN ARMY OFFICER.

FORT LEAVENWORTH, KAN., February 17, 1891.

National Typewriter Company, 719 Arch Street, Philadelphia, Pa.:

GENTLEMEN:—The National Typewriter, which was sent by you on the 14th inst., arrived in good order this afternoon and is giving perfect satisfaction. I am delighted with the long space key, and I think it a great improvement. I think the "National" ought to sell well in the army, as it is very compact and easily transported, two things that are greatly desired in the army, where transportation is limited. Again, it is not so high priced (\$60.00) that it absorbs a whole month's pay. Again thanking you for your promptness, I remain,

A. G. HAMMOND,
First Lieutenant, Eighth Cavalry.

In Memoriam.

Captain George D. Wallace,

7th Cavalry,

KILLED IN ACTION WITH HOSTILE SIOUX INDIANS,
AT WOUNDED KNEE, SOUTH DAKOTA,

DECEMBER 29, 1890.

First Lieutenant Edward W. Casey,

22nd Infantry,

COMMANDING CHEYENNE INDIAN SCOUTS,

KILLED WHILE ON RECONNAISSANCE DUTY, ON WHITE CLAY CREEK,
SOUTH DAKOTA, BY A BRULÉ SIOUX INDIAN,

JANUARY 7, 1891.

First Lieutenant James D. Mann,

7th Cavalry,

DIED JANUARY 15, 1891, OF WOUNDS RECEIVED IN ACTION AT
DREXEL MISSION, SOUTH DAKOTA,

DECEMBER 30, 1890.